AFTER THE BATTLE

THE PEENEMÜNDE ROCKET CENTRE

Number 74

NUMBER 74

Edited by Winston G. Ramsey

Published by Battle of Britain Prints International Ltd.,
Church House, Church Street,
London E15 3JA, England
Telephone: 081-534 8833
Fax: 081-555 7567

Printed in Great Britain by
Plaistow Press Ltd., London E15 3JA

© Copyright 1991

After the Battle is published quarterly on the 15th of February, May, August and November.

United Kingdom Newsagent Distribution:
Seymour Press Ltd., Windsor House, 1270 London Road, Norbury, London SW16 4DH. Telephone: 081-679 1899

United States Distribution and Subscriptions:
Bill Dean Books Ltd., P.O. Box 69, Whitestone, New York 11357. Telephone: 1–718–359–6969

Canadian Distribution and Subscriptions:
Vanwell Publishing Ltd., 1 Northrup Crescent, St. Catharines, Ontario, L2M 6P5. Telephone: (416) 937 3100

Australian Distribution:
Technical Book and Magazine Company, Pty, Ltd., 289–299 Swanston Street, Melbourne, Victoria, 3000. Telephone: 663 3951

New Zealand Distribution:
South Pacific Books (Imports) Ltd., 6 King Street, Grey Lynn, Auckland 2. Telephone: 762-142

Italian Distribution:
Tuttostoria, Casella Postale 395, I–43100 Parma. Telephone: 521 94702, Telex 532274 EDIALB I

Dutch Language Edition:
Quo Vadis, Postbus 3121, 3760 DC Soest.

CONTENTS

THE PEENEMÜNDE ROCKET CENTRE 1

READERS' INVESTIGATIONS
The Paratrooper and his Dog 28

WRECK RECOVERY
Recovery of a Japanese tank, Guam 34

WAR GRAVES
Pilgrimage to Kohima 36

WAR FILM
Liberation 42

IT HAPPENED HERE
MI5's Secret Interrogation Centre 50

Front Cover: Following the heavy Bomber Command attack on the German rocket research establishment at Peenemünde, test launches were transferred to Heidelager in Poland where this A4/V2 was photographed in June 1944. **Insets:** The ruins at Peenemünde were later cleared by the Soviets — this is the liquid oxygen plant and the water-filled pit at Test Stand VII. (Jan Heitmann)

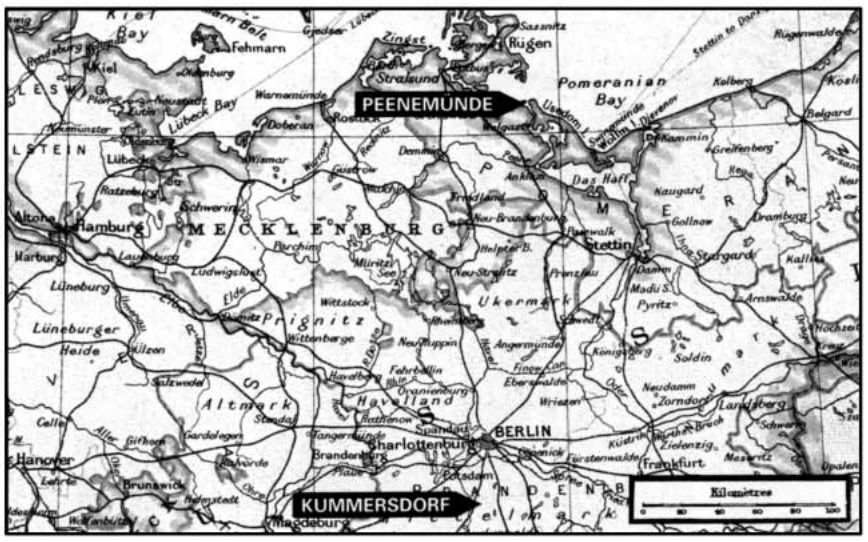
Centre Pages Top left: Still inside a military security zone, the old Luftwaffe control tower at Peenemünde West was in use until a modern covered flight control installation was built by Luftstreitkräfte/Luftverteidigung, the East German Air Force. (Stefan Petersen)
Bottom Left: A MiG-23 touches down for the last landing of a Luftstreitkräfte/Luftverteidigung aircraft at Peenemünde on September 26, 1990. The pilot was Lieutenant-Colonel Dietze, Commanding Officer of Jagdfliegergeschwader 9. (Stefan Petersen)
Right: The grave of Private Emile Corteil and his dog, Glen, lies in the British Military Cemetery at Ranville in Normandy. (Simon Chase)

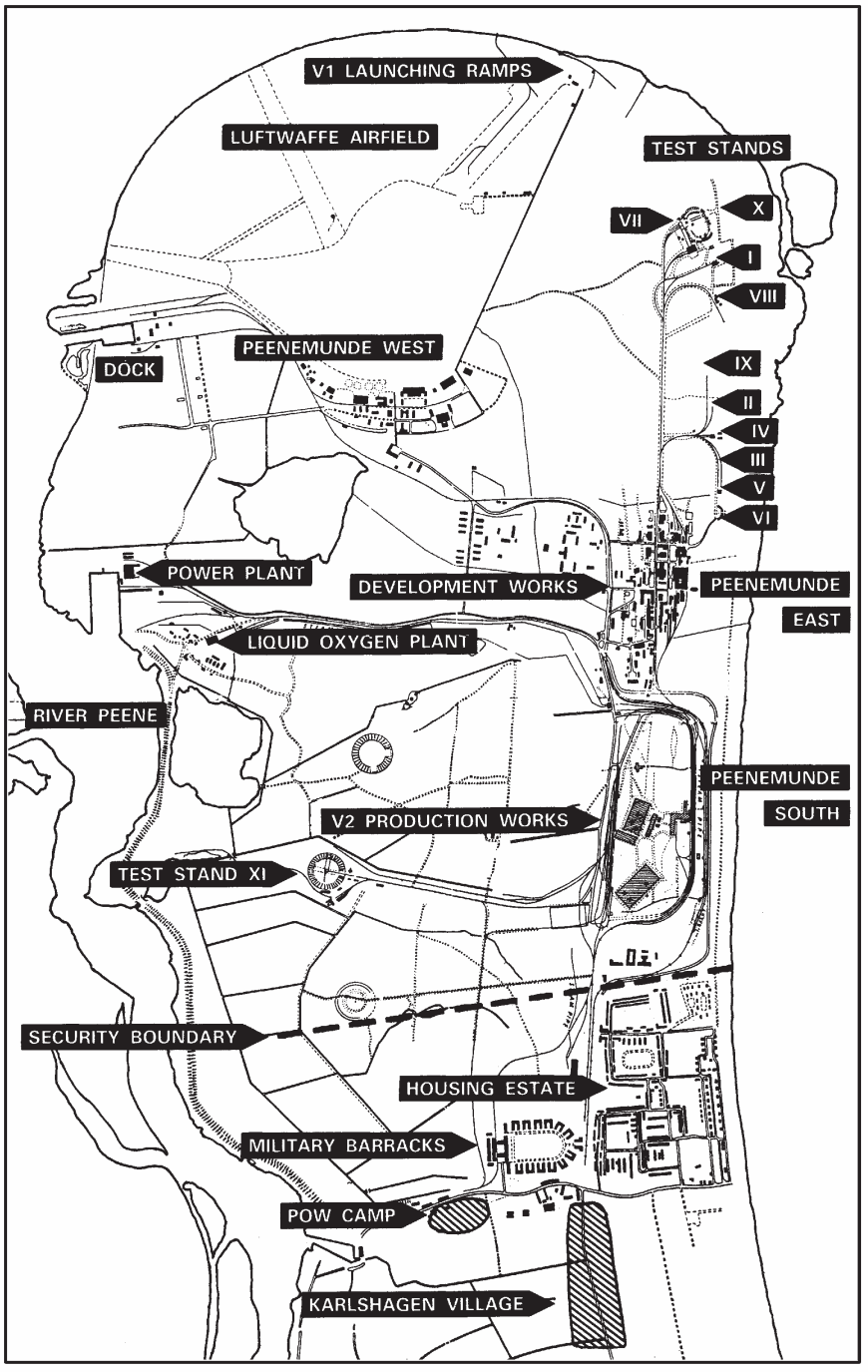
Back Cover: Mrs J. Ginever at the grave of her husband at Massicault War Cemetery, Tunisia, during the 1990 Royal British Legion Pilgrimage. (British Legion)

Acknowledgements: Extract from Brigadier James Hill (page 32) from *Men of the Red Beret* by Max Arthur, published by Hutchinson.

Photographs: BA: Bundesarchiv, Koblenz; DM: Deutsches Museum, Munich; IWM: Imperial War Museum; SV: Süddeutscher Verlag, Munich

ISSN: 0306-154X





THE PEENEMÜNDE ROCKET CENTRE

By Jan Heitmann

'Houston, Tranquility Base here. The Eagle has landed'. The day was July 20, 1969. When Professor Dr Wernher Freiherr von Braun listened to Apollo 11 commander Neil Armstrong advising an anxious earth that man had landed for the first time on another celestial body, he knew that he had reached his aim in life. He was at the end of a course which he had started to follow forty years earlier in Germany.

The statement has often been made that the Space Age began in 1957 when the Russians put their Sputnik I, the first artificial satellite, into orbit around the earth but in fact this event was only the culmination of decades of thought and work. Every space flight begins with a rocket launching and the rocket is the only known propulsion system which will operate in a vacuum. Therefore, before an artificial satellite could be orbited, rockets had to be designed, constructed and tested. And before these rockets could be built, science had to discover the natural laws that applied to rockets and develop the necessary materials and techniques.

Many of the pioneers in rocketry were German. In the early 1920s, a number of young Germans became enthusiastically interested in the development of rockets as space vehicles. Hermann Oberth, born in Transylvania and a medical student at Munich, had become deeply interested in this subject. In 1923 he published a book entitled *Die Rakete zu den Planetenräumen* (The Rocket Into Interplanetary Space) which rapidly went through its first edition. His book strongly supported the use of liquid rocket fuels, discussed the possible construction of liquid-fuel rockets and considered the problems of orbiting the earth with such devices. Oberth's arguments convinced many people that space travel was not pure science fiction and that it would have to be taken seriously. His book also led to the formation of the influential Verein für Raumschiffahrt (Society for Space Travel) in 1927 with the goal of actually building the rockets contemplated by Oberth. Its membership rose rapidly to around five hundred, enough to support a journal, *Die Rakete* (The Rocket).

The society obtained permission to use an abandoned military ammunition storage facility in Reinickendorf, a suburb of Berlin, to test their rockets. The Raketenflugplatz

Peenemünde 1941. Despite its secrecy, Germany's rocket research and development centre drew a continuous stream of VIPs from Berlin. This is Minister Generalmajor Dr Fritz Todt visiting Peenemünde in 1941. From left to right: General Emil Leeb, Head of the Army Ordnance Department, Generalmajor Todt, Oberst Walter Dornberger, in charge of the rocket project, and General Friedrich Olbricht, Chief of Army General Office. In the left background, with white hair, is Heinrich Lübke, deputy head of a Peenemünde construction company and, from 1959 to 1969, President of the Federal Republic of Germany. (DM) *Above:* **Peenemünde 1991. Thanks to unification, for the first time since the end of the war surviving employees of the rocket programme were able to enter the former sealed off area to hold their 50th anniversary reunion.**

(rocket airfield) became famous as the site of the early experiments of several men who later played major rôles in the German Army's rocket programme. Despite odd setbacks, the proving ground was eminently successful. Among the members of this society was the 19-year-old student Wernher von Braun who later became one of the world's most successful rocket designers and engineers. At an early age he had acquired a considerable reputation as a rocket expert and in 1932 he was chosen as first assistant in a rocket development programme sponsored by the German Army.

The German Army's interest in rockets dated back to 1929. At Kummersdorf, a village some 25 kilometres south of Berlin, the Army experimented under the direction of Hauptmann Walter Dornberger, an artillery captain who graduated in 1930 from the Technische Hochschule Berlin with a degree in mechanical engineering. The Heereswaffenamt-Prüfwesen (Army Ordnance Department, Research and Development Section) established the Versuchsstelle Kummersdorf West as a site for developing and testing static rockets. The Army was looking for a cheap, light rocket and was also interested in the newly-emerging liquid-propellant rocket as a potential weapon.

Meanwhile the economic depression had caused the membership of the Verein für Raumschiffahrt to drop severely. By autumn 1932 the society sought in desperation for support from the German Army. After a demonstration flight, the Army invited von Braun, who by then had obtained his degree, to do the experimental work for his thesis on rocket combustion at Kummersdorf. With the departure of von Braun and the decreasing number of members, the days of the Verein für Raumschiffahrt and the Raketenflugplatz were clearly numbered. Work at Raketenflugplatz ended in the winter of 1933-34 and the area reverted to an ammunition dump.

The check-point at the main entrance to the Peenemünde establishment in 1940. This was the passage through the security boundary which ran from coast to coast across the peninsula. Everyone who reached the fence had to show a special pass to be allowed into the security area. (DM)

The scientists were accommodated in the Karlshagen housing estate located just outside the wire. The main entrance was known as the 'Brandenburger Tor'. (DM)

Left: **Severely damaged in Operation 'Hydra', the RAF's massive attack in August 1943 designed to wipe out Peenemünde, the gate remained in ruins until cleared away in 1962.** *Right:* **Nothing now marks the spot where it once stood.**

The estate suffered greatly in the RAF raid and of the 2,500 dwellings only 72 survived. *Left:* **Schulstrasse after the massed attack.** *Right:* **Coffins near the mayor's office on Strandstrasse on the morning of August 18, 1943. (DM)**

Hauptmann Dornberger successfully began to recruit the members of the Raketenflugplatz and the Verein für Raumschiffahrt and many joined the organisation at Versuchsstelle Kummersdorf West (Experimental Station Kummersdorf West). The first new rocket to be developed by Wernher von Braun and the Kummersdorf team was the liquid-propelled A1, an abbreviation for Aggregat 1. Powered by an alcohol-liquid oxygen engine developing 330 kilogrammes of thrust, the A1 was a relatively simple rocket which was 1.4 metres long and 30.4 centimetres in diameter. After a few successful static tests the A1 was redesigned in 1934 and named A2. Its dimensions and performance were nearly identical to the A1. In December 1934, on the North Sea island of Borkum, two A2 rockets which were named 'Max' and 'Moritz' after two troublemaking characters of a German fairy-tale, made two successful flights to altitudes of about two kilometres.

The Borkum success gave a new impetus to the rocket programme by convincing the Army that the rocket was practical as a weapon. The staff at Kummersdorf was increased and the organisation grew as did the power of the rockets. Both, the rockets and the organisation which had grown to some eighty people, were now too large for the restricted facilities at Kummersdorf. In 1935 the Army Weapons Department had begun a co-operative programme of rocket research with the newly established Luftwaffe to study the possibilities of rocket-propelled aircraft. In March 1936 General Freiherr von Fritsch, the Commander-in-Chief of the German Army, visited Kummersdorf. Dornberger and von Braun demonstrated the firing of their rockets. Then the general asked the one thing they wanted to hear: 'How much money do you want?'

Dornberger began considering a test centre that would allow development and testing of the very large rockets. A move to another site was essential but the new proving ground would have to be located on the coast where large rockets could be launched away from the base itself. The firing also ought to be parallel to the coastline so that the entire trajectory could be observed by camera and by radio. The site itself should meet the requirements of safety, security and secrecy. Dornberger and von Braun met with Luftwaffe General Albert Kesselring to discuss the project and the choice fell on Peenemünde, near to the small town of Wolgast on the Baltic coast.

This area had two major advantages: its remoteness and the fact that the east coast of the peninsula looked out over an uninterrupted stretch of German-controlled sea 180 kilometres in length. The decision was made to set up a joint Army-Air Force research establishment covering some 50 square kilometres. Almost immediately, military engineers and construction workers moved in.

In 1936 Peenemünde was a small fishing village on the right bank of the River Peene where it flows into the Baltic. The name of the town in fact means 'the mouth of the Peene'. Peenemünde was so small and unimportant that it was not even listed in the German railway guide. Indeed this area, the seaward end of the island of Usedom, which is in fact a peninsula, was almost a pristine wilderness with dense forests. The area in which the proving ground was to be constructed was a nature reserve and virtually untouched by man. It consisted of dunes and marshland overgrown with ancient oaks and pines, nestling in untroubled solitude behind a reedy foreland reaching far out into smooth water. The place was far away from large towns or any kind of heavy traffic. The nearest cities were Rostock and Stettin, each about 100 kilometres away, but the loneliness and wilderness were not to last for long.

The army installations, called Heeresversuchsanstalt Peenemünde (Army Research Centre Peenemünde), occupied by far the greater portion of this area, while the Luftwaffe installations, Peenemünde West, covered only some ten square kilometres. Heeresversuchsanstalt was located generally along the eastern coast of the peninsula from its northernmost tip to the village of Zinnowitz, fifteen kilometres further to the south. However, the term 'Peenemünde' was adopted for the whole research establishment even though this included Karlshagen and, later, other villages.

North of Karlshagen the planners decided to build a new housing estate for the scientists, engineers and administrators and their families which was called Karlshagen Siedlung (Karlshagen Housing Estate). The new compound was provided with shops, schools, a sports field and a local club, the Kameradschaftsheim. It had all the characteristics of a model village, and it was home to more than 3,000 people.

South of the housing estate there were a barracks square for the soldiers of the research centre and a camp for foreign workers and prisoners of war. A camp at Trassenheide also held PoWs and conscripted workers, the majority from Poland.

In the south-west corner of the peninsula a new coal-fired, steam-turbine power station was built which provided 30,000 kilowatts of electricity. There was also a factory to produce the liquid oxygen which was used as rocket fuel. Here was also located the wind-tunnel which was the most advanced in the world, and the first in which aerodynamic forces could be measured at supersonic speeds. The small existing Peenemünde harbour was deepened and improved.

Left: **Today only two of the original streets survive. The remainder of the housing area is either entirely flattened or occupied by blocks of flats** *right.*

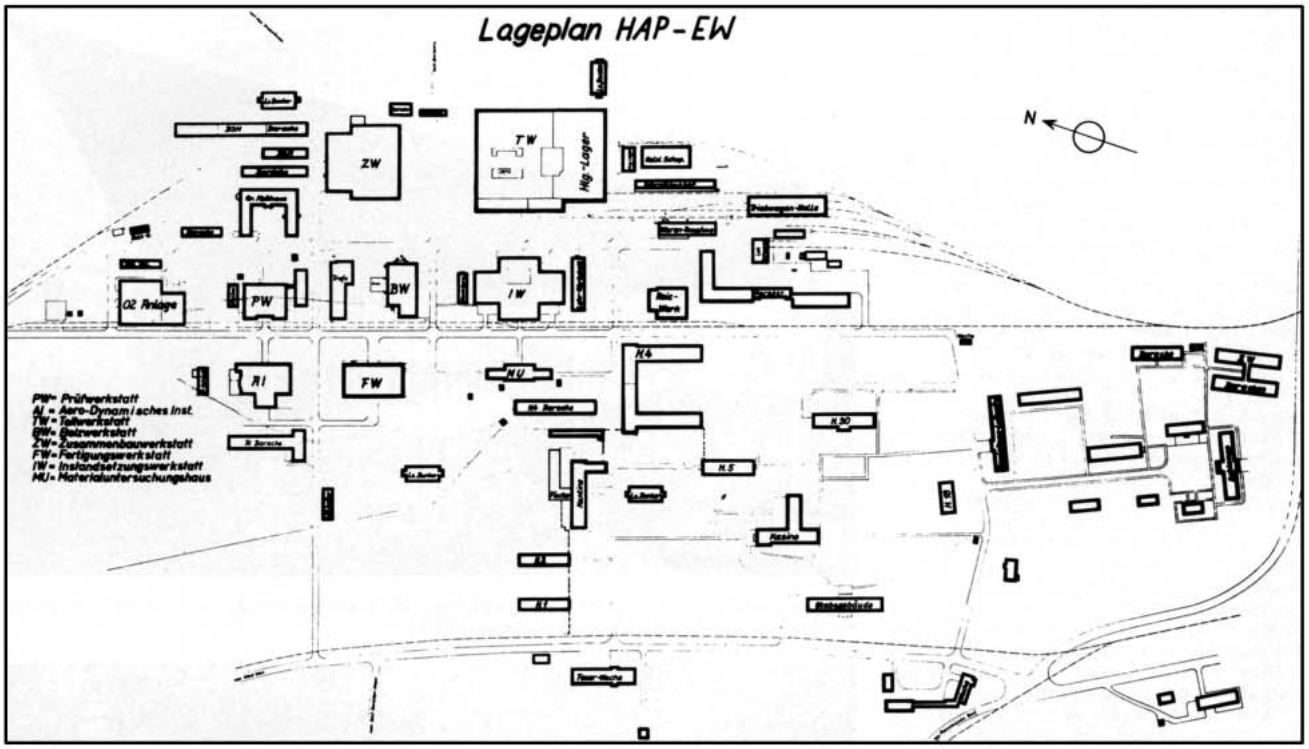
The Peenemünde Kameradschaftheim, formerly an hotel, then the community club, was finally a billet for young female workers.

Several hundred female auxiliaries were quartered in large dormitories bordering the beach in the south-east corner of the housing estate. The Kameradschaftsheim is on the extreme right. (DM)

To the north, on the boundary between the forest and the sandy foreshore, nine 'test stands' for the test firing of rockets were constructed. The largest of these was Test Stand VII from which the famous A4 was actually launched. Three more for engine tests only were constructed in the woods north-east of the village of Karlshagen.

In the north-west corner of the peninsula, the Luftwaffe built an airfield, known as Erprobungsstelle der Luftwaffe — Werk West (Luftwaffe Test Installation) or Peenemünde West, which became a centre for the test flying of secret types of aircraft.

The ruin remained until 1956 when the site was finally cleared.



Plan of the Experimental/Development Works Peenemünde East, also known as 'EW' — Entwicklungswerk. (BA)

The heart of the new rocket research centre was constructed among the dense woods near to the north-eastern corner of the peninsula. The experimental, research and development laboratories, and workshops for the rocket programme and the headquarters office blocks were also erected here. The engineering and research area provided the shops and laboratories needed to support the Heeresversuchsanstalt, including the guidance, control, telemetering laboratory, materials testing laboratory, radar and optical tracking stations, military and civil headquarters, officer's quarters, mess halls and various shops needed for plant maintenance. The buildings were designed along the lines of modern Luftwaffe installations rather than the old fashioned architecture still favoured by the Army. The majority of the buildings were either light brick housing or wooden barracks. Every effort was made to leave as many trees as possible to provide natural camouflage. This part of the new establishment became officially known as Entwicklungswerk — Werk Ost (Experimental/Development Works) or Peenemünde East.

The different parts of the new rocket research centre were linked by a new road system and by an electric railway network of 75 kilometres in length, which started at Zinnowitz, south of Karlshagen. North of Karlshagen there was a security boundary running from coast to coast across the peninsula. The whole Pennemünde area became a restricted zone to ordinary people and everyone who reached the boundary fence at the southern limit of this area had to show a special pass to be allowed into it. For the reasons of secrecy and security most of the inhabitants of Peenemünde were evacuated.

Of course the removal of personnel and facilities from Kummersdorf to Peenemünde did not take place overnight. As the construction work at Peenemünde required considerable time, some of the rocket personnel remained at Kummersdorf until early 1940.

The first task of Heeresversuchsanstalt Peenemünde was to develop a third generation of liquid-propellant research rockets with adequate growth potential to give experience and information. In October 1937, while the move into the new test centre was in full progress, the first rockets of the new A3 series were launched from Greifswalder Oie, a small island eight kilometres off the northern coast of Usedom. The A3 was a quantum leap forward from the A2. Its motor produced 1,500 kilogrammes of thrust for 45 seconds and it was provided with quite a sophisticated guidance and control system. However, all three test models of the new rocket failed. After rising a few hundred metres they lost stability and crashed. The engines behaved well enough but the new guidance system did not. Eventually the problem was solved but not before two years of effort had been expended on it. In the meantime, because the A3 ran into so many difficulties, a new experimental rocket had to be produced.

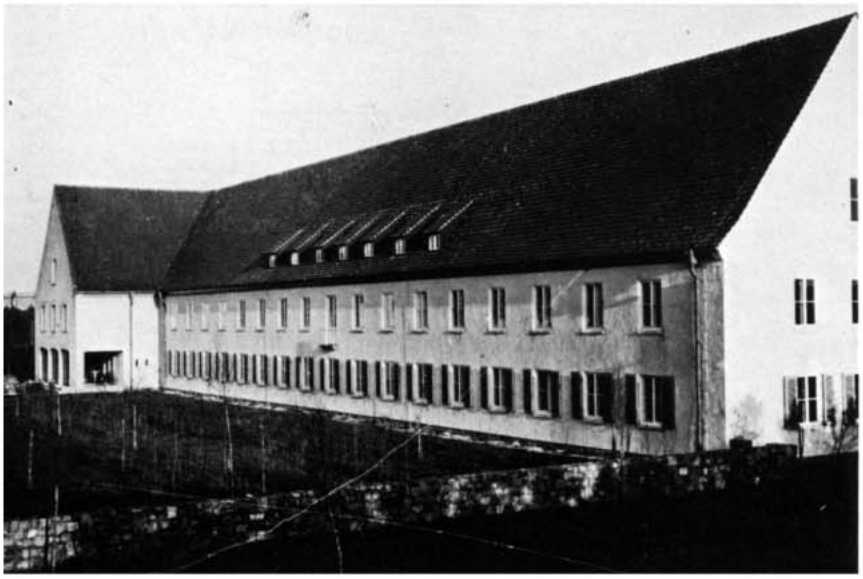
Today most of this area is still inside a military security zone to which access is strictly forbidden (see sketch page 22). Only parts of the southern sections of Peenemünde East are accessible. The northern sections are fenced in.

By 1938 the Army wanted a long-range missile, capable of flying up to 300 kilometres with a one-ton warhead. The rocket had to be transportable by road and rail so its size had to be compatible with Germany's existing rail and road network. The response to these criteria was the A4 rocket. The original design for the A4 dated back to 1936 when von Braun and Dornberger felt that it was time to get down to a weapon rather than to continue building research rockets for space exploration as the rocket people originally intended. However, the step from the A3 to a reliable A4 could not be made without an interim test missile to perfect the guidance system which would be vitally necessary for the larger rocket. Thus the A5 was born.

The first A5 tests started in March 1939 and, together with the vast amount of data already accumulated from previous trials, the rocket team was able to produce the final layout for the A5. It was to have the same propulsion system as the A3, a greatly improved structure and an improved guidance and control system. Its first flight in October 1938 from Greifswalder Oie, without the new guidance system, proved the usefulness of the rocket's mechanical design. A second launching, this time with the new guidance system, went off perfectly. By 1940 the launches of the A5 numbered at least 25 without a single failure, the tests covering virtually all the aspects of the later A4.

While the A5 flights went ahead, components were designed and developed for the much larger A4. By the spring of 1939 some A4 components were actually in production and when the last A5 was launched, the first A4 was already on the way to completion.

In the autumn of 1939, Heeresversuchsanstalt Peenemünde became fully staffed and equipped when all remaining personnel were relocated from Kummersdorf. At the same time the Army agreed to give the A4 project the highest priority. Heeresversuchsanstalt was now part of the Heereswaffenamt-Prüfwesen (Army Ordnance Department, Research and Development Section). The Peenemünde side was directed by one of its sub-offices under the command of Dornberger, now holding the rank of Oberst. Dornberger's office was concerned with research into both liquid-propellant and solid-propellant rockets, as well as all controlled guided missiles except those of the Luftwaffe. The Peenemünde test centre was commanded by Oberst Leo Zanssen, a graduate engineer, with Wernher von Braun as civilian technical director. Reporting to von Braun were nine major departments: Technical Design Office; Aero-ballistics and Mathematics Laboratory; Wind Tunnel; Materials Laboratory; Guidance, Control



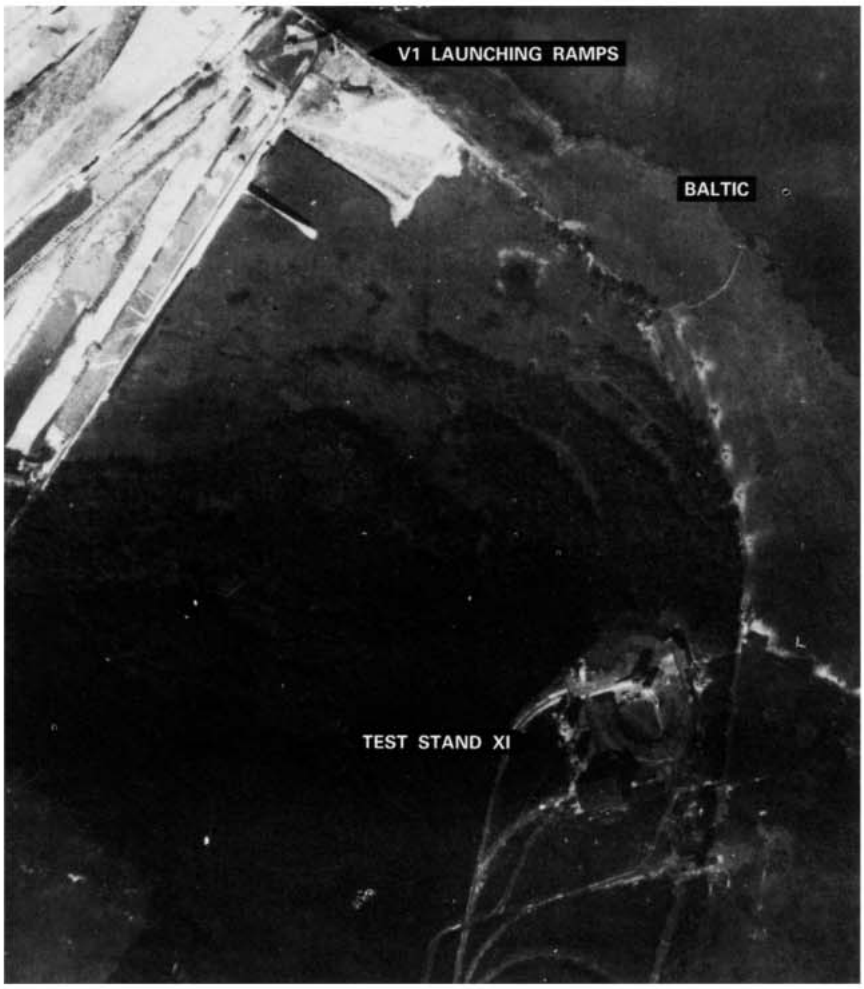
The engineering office at Peenemünde East. Dr Wernher von Braun's office was on the second floor, above the small balcony. (BA)

Following the old streets to get to von Braun's turbo-pump engine headquarters, one will be stopped suddenly by fences and prohibition signs. Even the bravest *After the Battle* sleuth is well advised not to ignore this warning because, in all military security zones, the guards are ordered to use their guns!

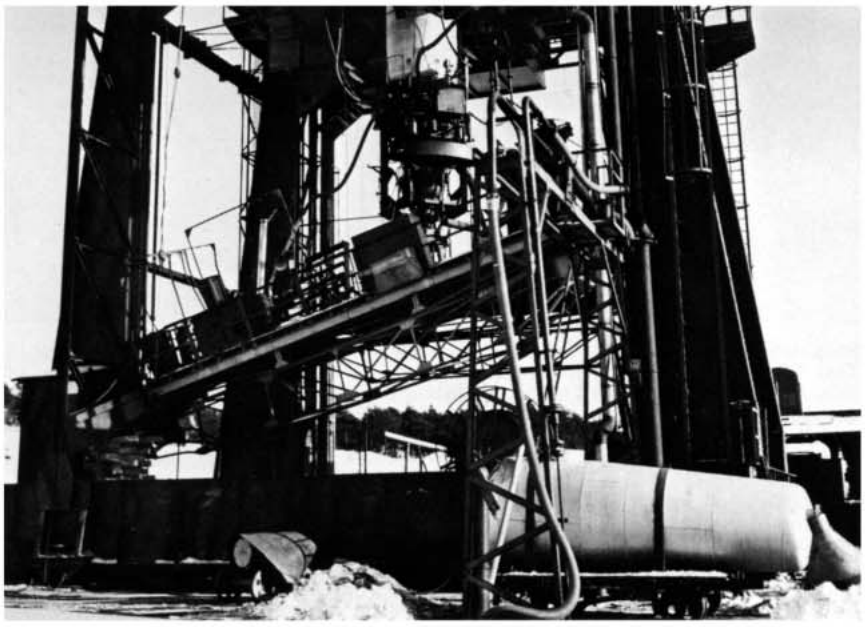
and Telemetry Laboratory; Development and Fabrication Laboratory; Test Laboratory; Future Projects Office and Purchasing Office. From now onwards Heeresversuchsanstalt Peenemünde was the most advanced establishment of its kind in the world.

By the beginning of 1940, the enormous sum of 550 million Reichsmarks (£1.2 billion at today's prices) had been expended on Peenemünde in its first two years. More than 18,000 scientists, engineers, technicians and other personnel worked day and night under the overall supervision of von Braun. Thousands more were under contract at research centres and universities. In March that year an A4 engine was successfully tested for the first time but Hitler, now standing triumphant over almost all of Europe, believed that the rocket would arrive too late for the present war and removed Peenemünde completely from the priority list for men and supplies. The rapid fall of Poland, the Netherlands and France resulted in a re-appraisal of all uncompleted projects and the requirement for a long-range rocket seemed to be unnecessary. However the failure of the Luftwaffe in the Battle of Britain, and the first setbacks in Russia, changed the outlook yet again. Priorities for Peenemünde were raised in spring 1941 but only enough to ensure that the development of the A4 was maintained. It was not enough to organise the production and launch facilities and employ the personnel required to use the rocket as a weapon.

Nevertheless, work continued and by 1942 the first A4 rockets were coming out of the Peenemünde model shops. After the phase of static testing the first firing took place on June 13, 1942, when the armament chiefs of the Army, Lufwaffe and Navy together with the Armaments Minister himself, Albert Speer, were present to witness the event. It was a disaster. Two seconds after launch, the propellant system failed due to an electrical fault and the huge rocket went out of control, crashed and exploded. A second was launched successfully on August 16, only to break up 45 seconds into the flight due to a structural failure. The rocket exploded at an altitude of more than eleven kilometres and fell into the sea nine kilometres from the launching site. Although the test was not entirely successful, this A4 was still the first guided missile to exceed the speed of sound.



In all, there were nine Test Stands (or launch pads in space-age jargon) situated behind the beach in the north-east. (Three other test stands were built on the west side of the peninsula but these could not be used for actual launches because missiles would have had to be fired over the built-up areas.) The largest and most famous of all the Test Stands was VII at the northern end, seen here through the camera of a Mosquito of No. 540 Squadron who were keeping a close eye on Peenemünde in 1943. This frame also just covered the corner of the Luftwaffe complex, Peenemünde West, and showed the test ramps for the V1, although they were not identified as such until November 1943.



Left: **The elliptically-shaped stand was also equipped with a tower arrangement used for static engine tests. Called the 'Schurre', its huge pumps delivered 500 litres of water per second to cool the hot combustion gases. These were deflected into a sloping pit eight metres wide and six metres deep. (DM)**
Right: **Although now filled with water, it still survives.**

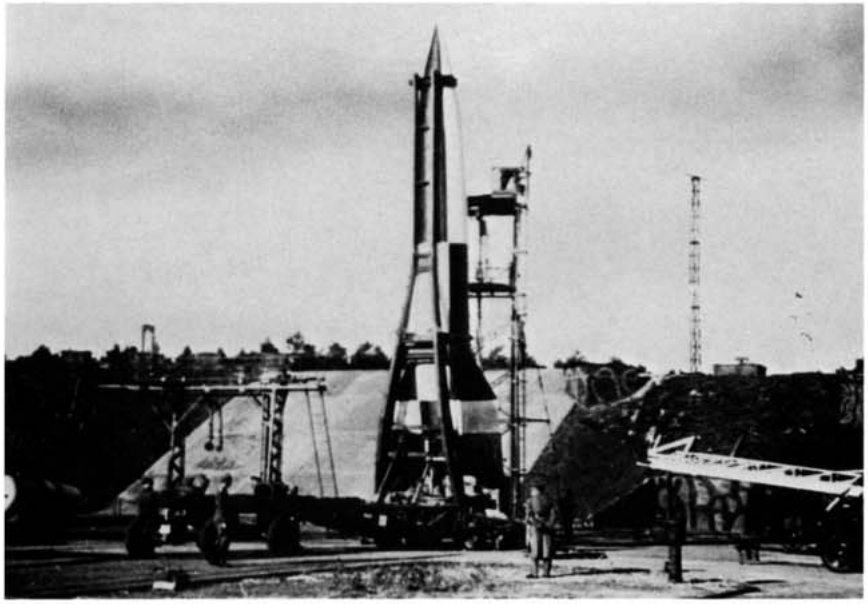
Preparations for a launch. Fuelling of an A4 is being carried out in the 'arena' of Test Stand VII next to the Schurre, using a mobile crane stage and a propellant vehicle. The protecting wall in the background, which was ten metres high, shielded the launching site from the sea breeze and prevented sand blowing in from the nearby beach. (DM)

Then came the day of triumph. On October 3, while the crew was busy preparing the rocket at Test Stand VII, an excited Oberst Dornberger looked into the clear, cloudless sky. In the streets between the widely scattered buildings of the Peenemünde installations, at the windows and on the roofs of sheds, offices and workshops, the entire staff was waiting and watching. All wanted to witness the third firing of an A4 rocket.

'X minus 1'. The tension grew. If this test failed . . . Dornberger felt cold with suspense and excitement under the warm autumn sun.

'Ignition!' After about a second, thrust rose to 25 tons and the gleaming body of the 12.5-ton rocket rose vertically into the sky. In the full glare of the sunlight the rocket rose higher and higher. The flame darting from the stern was almost as long as the missile itself. The black and white segmented markings facing the men on the ground remained stationary indicating that the rocket was stable and not turning. The first critical moment had passed. Then, almost imperceptibly at first, the rocket began to incline its tip eastwards.

'Sonic velocity!' reported the loudspeaker. Nothing untoward happened. The rocket flew imperturbably. After 58 seconds the motor was switched off by radio and the rocket carried on as a ballistic missile, reaching the maximum altitude of 84 kilometres before plunging downwards in an arc towards ground. The reddish flame had vanished. Only a thin, milky streak of mist still followed the rocket as it raced away at supersonic speed. The A4 followed its programmed trajectory to the target point 190



Left: **Another A4/V2 being readied for launch. This rocket is to be fired from a Meillerwagen — the combined transporter and mobile launching platform. (BA)** *Right:* **Five seconds after the launch, the flame darting from the stern is almost as long as the rocket itself. The black and white surface markings do not change, indicating that the rocket is not spinning. (DM)**

kilometres down-range in the Baltic where it fell into the sea only four kilometres from its predicted impact point.

For the rocket team this was the day of triumph. Even the normally detached scientists and army officers were caught up in the exitement of the moment. That night the top level managers of the rocket team met in the senior officers' mess. After recapitulating the success, Dornberger stated that they had invaded space for the first time and had used space as a bridge between two points on earth. But, he continued, so long as the war lasts, their most urgent task could only be the rapid perfecting of the rocket as a weapon. Dornberger is reputed to have said to von Braun later: 'This 3rd October 1942 is the first day of a new age of traffic technology — today space travel was born.'

The German High Command was, however, far more interested in the military uses of the rocket than in space travel. The A4 was the prototype of the huge V2, the abbreviation for Vergeltungswaffe 2 (retaliation weapon) which later devasted Antwerp and London. The V2 was the largest and most advanced rocket of that time. It was 14.20 metres long, 1.65 metres in diameter and weighed more than 12,000 kilogrammes. It carried its 1,100 kilogramme payload from 290 to 340 kilometres, propelled by an engine using turbo-pumped liquid oxygen and alcohol and generating an average thrust of 25,000 to 30,000 kilogrammes. It had a range nearly double that of Germany's famous Paris Gun of World War I and it carried a warhead with ten times as much explosive.

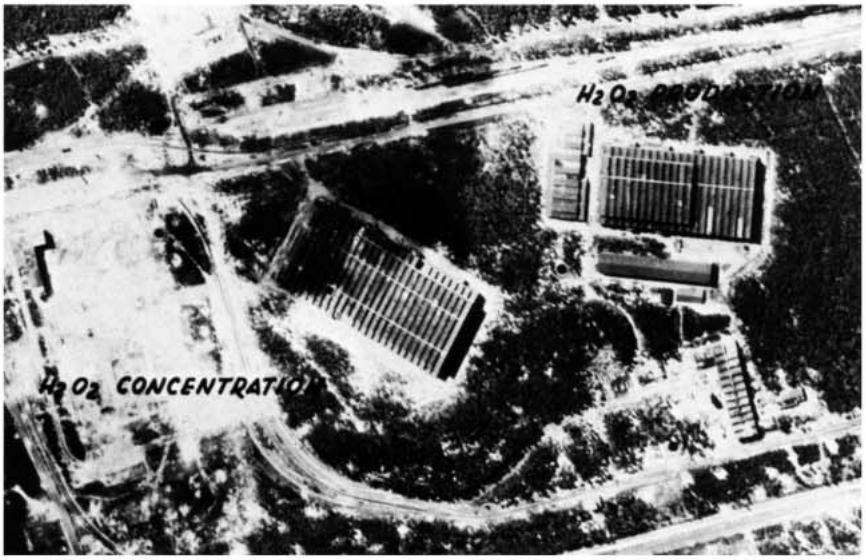
Hitler, who had not seemed impressed when he viewed test firings at Kummersdorf in 1939, suddenly became interested in what was happening at Peenemünde. A V2 production committee was established in the Ministry of Armaments with Gerhard Degenkolb as director. It immediately began issuing directives and setting up a mighty production organisation. Mainly composed of men of little scientific judgement, although of vast energy, this committee was

Still inside a military security zone, at the moment Test Stand VII can only be visited with special permission and guidance. Most of the site is overgrown with trees and bushes.

a thorn in the side to Peenemünde. Despite this interference, hundreds of V2s were manufactured and fired over the next two years to prove out systems and acquaint the military with the operational characteristics of the new weapon. In December 1942 Hitler signed a decree drafted by his Armaments Minister, Albert Speer, authorising the mass production of the V2, though failing to give it any special privilege. It took six more months for Hitler to grant the rocket top priority.

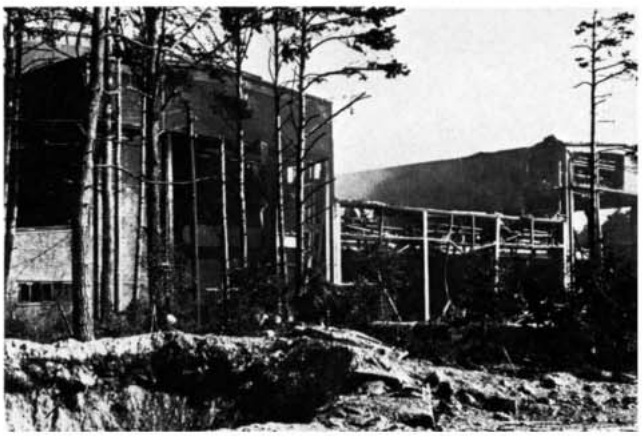
A major problem was that the V2 had never been designed for mass production. Each test rocket was hand made and individual modifications were incorporated on the construction line based on a long programme of continous development. No serious provisions were ever made in the design for large-scale production. The first V2s had been assembled in a large workshop in the middle of an area of virgin woodland between Peenemünde East and the housing estate. A second, larger workshop was now being constructed nearby and fitted out with equipment to enable the V2 to be mass-produced from the hundreds of parts being made in factories all over Germany. The resulting rockets were to be used in further test firings. The next phase would be the production of rockets for operational use. The new two assembly halls became known as Versuchsserienwerk or Peenemünde South. It was one of three places where V2 rockets were to be assembled. The others were the Zeppelin works at Friedrichshafen and the Henschel-Rax works in Austria. The Degenkolb Committee produced a programme for the increasing production of V2 rockets at Peenemünde and the other two factories which aimed at reaching a peak of 950 rockets per month by autumn of 1943. At the same time Dornberger, now promoted to Generalmajor, took over the post of camp commandant from Oberst Zanssen.

One problem which had to be solved was whether the V2 should be a mobile weapon. The rocket experts preferred a fixed launch site where loading, preparing, servicing and last-minute adjustments could be handled, but the military experts realised that any fixed site, no matter how well protected, would be an easy target for Allied bombers. So the V2 was made fully transportable and launchable from road or rail equipment. The Peenemünde engineers created a combined transporter and erector for the V2, the Meillerwagen, which was produced in Munich by the Meiller Company, hence the name, only one month after it was designed. A typical trailer-mounted rocket was supported by about thirty vehicles, including transportation trailer, launching platform trailer, propellant vehicles, and command and control trucks.

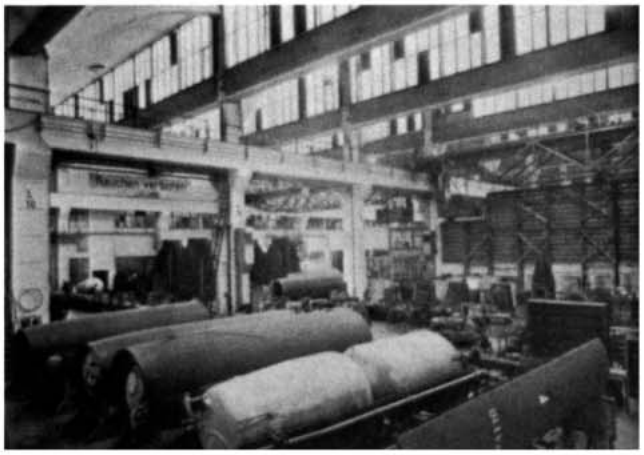


British reconnaissance photograph showing the two assembly halls of the V2 production works (Trial Series Works — Peenemünde South). The photo is believed taken on August 4, 1943, two weeks before Operation 'Hydra'. British Intelligence has incorrectly identified the purposes of each building because the rocket fuel (H_2O_2= Hydrogen Peroxide) was not produced or used at Peenemünde South. (SV)

The site is in a prohibited zone, the reason being given that unexploded bombs still remain uncleared. However our author, Jan Heitmann, believes that this is only an excuse and that 'a simple fence and sign cannot prevent a real *After the Battle* sleuth from doing his work'.



Left: **The Versuchsserienwerk Peenemünde South suffered under the bombs of the 113 Lancasters of the second wave although the bombing caused only slight damage to the V2 production plant. This photo shows the damage caused to one of the assembly halls. (DM)** *Right:* **Nothing of the wartime installations is left but the streets can still be traced,**



Left: **The two buildings mis-identified by the RAF were in reality used for the manufacture of A4s. These are propellant tanks for the V2 under construction in the northern assembly hall. Although at this stage the tanks were empty of their flammable fuel and oxidiser, the sign in the background says 'Rauchen Verboten' (no smoking).** *Right:* **There is no need for a ban on smoking today because the building was razed to the ground after the war.**

Peenemünde gradually became more militarised as the war progressed and a formal military unit, Versuchskommando Nord (Experimental Detachment North) was established there. It consisted of some thousand men, all of whom were scientists or engineers. Rank meant little and orders were usually given by the man with the highest technical qualification regardless of his military rank. Versuchskommando Nord received strong reinforcements and the whole of Germany and its armed forces were combed for technical men. The principals of universities, technical high schools and research centres were asked to name their best men and many were thus suddenly plucked from military service or other civilian employment. Now they were virtually freed from normal military discipline and were able to practise their civilian qualifications at Peenemünde. A significant addition to the Peenemünde garrison was the Lehr und Versuchs Batterie 444 (Training and Experimental Battery 444). This was the first unit to train the soldiers who would eventually fire operational rockets against the enemy. They started work in the summer of 1943, operating from one of the test stands. Later they reinforced the skeleton staff of Fern Raketen Truppenschule (Long-Range Rocket School) at Köslin.

Of the later designs of the 'A' series, only the A7 had actually been built during the war. The A6, an improved V2 with fuels that could be stored for faster tactical response and greater ease of handling, was complete on paper but never converted to hardware. There was an A7, a winged missile that was about the same size as the A5. The first A7s did not have propulsion systems but were used merely for air-drop tests to gather ballistic data. Later models had A5 engines for ground launch tests. The A8, like the A6, was never built. It would have been essentially an improved A6 adapted to the same winged configuration used for the A7 and A9. The objective for the A9 programme was increased range. Instead of hurtling to earth, the winged missile would have made an extend glide towards the target. The final 'A' programme on which some design work was accomplished before the end of the war, was also the most ambitious. It was the A10, which was not a complete vehicle but the first stage of a two-stage vehicle, the A9 was to be the second stage. Calculations showed that the missile could carry a one-ton payload roughly 4,000 kilometres. Above and beyond the A10 were ideas aimed at exploring space. One project, which could have become the A11, visualised a third stage under the A10/9 combination. And there was even thought of an A12 stage, producing a minimum of 1.14 million kilogrammes of thrust, with the A11 second stage and a winged A10 third stage, it could possibly have orbited a payload of up to 27,240 kilogrammes.

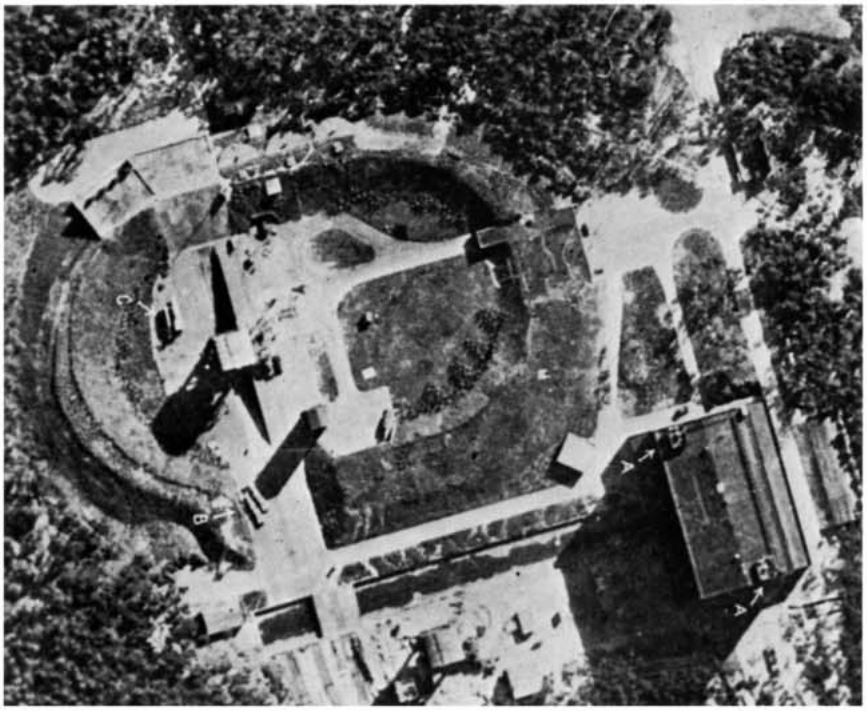
The rocket people got off to a late start on ground-to-air missiles, beginning development work only when the Allies began to dominate the skies over Germany. A variety of models were test-fired with some success but the war was over before they were ready for operational use. The principal missiles developed were the Enzian (25 missiles fired, of which one third were successful), the Feuerlilie F-25 (20 launches in 1943/44), the Feuerlilie F-55 (two flights in 1944), the Hecht, two models of the Rheintochter, the Schmetterling (occasionally called the V3, went into prototype production in 1943), the

Above: **Rocket mass production. V2 engines at the Trial Series Works Peenemünde South. The Russian engineers did their job well. Foundations and rubble heaps** *(below)* **are all that remain of the southern assembly hall. (SV)**

Taifun (both liquid and solid propellant motors were in production when the war ended) and the most important project of a ground-to-air anti-aircraft missile called the Wasserfall. Basically a one-third model of the V2, the Wasserfall was designed to knock out enemy aircraft at high altitudes. The first firing was in February 1944 at Peenemünde, about two years after the programme began. This was followed by 24 more in 1944 and 10 early in 1945.

Almost a sidelight to the major rocket and missile effort were the experiments conducted in the Baltic with rockets launched underwater. Short-range army rockets with solid propellants were used. Their exhausts were sealed and special ignition systems were installed. A simple welded steel rack, mounted on the deck of a submarine, was the launcher. The project was the idea of Kapitänleutnant Fritz Steinhoff, the commanding officer of *U-511*, whose brother, Dr Ernst Steinhoff, was one of the leading figures at Peenemünde. Six rockets were fired with complete success in summer 1942 but, despite the successful firings, the Kriegsmarine did not become interested in the project. In the autumn of 1943, the rocket team started to develop a submersible launching pontoon, code-named 'Prüfstand XII', but the war was over before the prototype was completed.

Allied intelligence services had been watching Peenemünde with no clear idea at first as to what took place there. Then, after four years of uninterrupted research and development, the Allies finally realised the importance of Peenemünde. The order to attack Peenemünde came as no surprise to RAF Bomber Command. In view of the importance of the target, it was considered essential to damage the Peenemünde facilities effectively. Accordingly, three separate areas were designated to be attacked: The Experimental/Development Works of Peenemünde East, the V2 production works of Peenemünde South, and the housing estate including the Wehrmacht camp. Omitted were the power station and liquid oxygen plants, all rocket test stands and the Trassenheide foreign labour camp. The intention of the raid was the destruction of the laboratories and workshops used to design and produce the V2 and to try to kill as many as possible of the scientific and technical personnel working on the project. The Luftwaffe airfield and the facilities of Peenemünde West were also ignored because the RAF was not aware of any link between Peenemünde and the V1 until later in the year.



So far in 1943, No. 540 Squadron had photographed the Peenemünde area seven times, but it was this excellent quality picture taken by Flight Sergeant E. P. H. Peek on June 23 which clearly showed several V2s out in the open in Stand VII. The shadows of the 45-metre-long sloping pit of the Schurre test rig show up clearly. The large building bottom right is the pre-launch assembly hall.

The night of August 17/18, 1943, was selected for the raid which was code-named Operation 'Hydra'. At 11.25 p.m. local time the sirens at Peenemünde sounded and at 00.17 a.m. the Master Bomber ordered the first wave of 227 bombers to begin their attack, directed at the housing estate. However, because of difficulties encountered by the Pathfinders, many of the bombs fell further to the south in the area which contained the large camp for foreign workers at Trassenheide, killing many hundreds of them. Ten minutes later the first attack was over but more aircraft were approaching. At 00.25 a.m. the second wave of 113 Lancasters attacked the V2 production works at Peenemünde South but scattered bombing again hit the housing estate. Within eight minutes, the second wave of bombers had completed its work. The last attack was mounted by 180 bombers of the third wave and directed against the Experimental/Development Works of Peenemünde East.

There were no German fighters over the target during the first thirty minutes of the raid but just before the third wave went in, the Luftwaffe finally appeared. All told, Bomber Command lost 40 aircraft, a loss rate of just under seven per cent, but this was considered acceptable for a once-for-all effort on such an important objective in which 1,600 tons of high explosives and 250 tons of incendiary bombs had been dropped.

Left: **The bombs did some damage to this assembly hall at Test Stand VII but the rockets inside remained intact. More than 30 metres high, the hall was provided with equipment to turn the rockets into the upright position before being readied for launch. (DM)** *Above:* **Smashed concrete is all that remains though the outline is plainly visible.**

Left: **Saturday, September 14, 1991. The Peenemünde veterans revisit Test Stand VII for the first time. 'We entered the area in four coaches,' writes Jan Heitmann, 'and we had to walk the last 1,000 metres. It was great to talk to the Peenemünde people (they call themselves a family) about their rocket research, standing at the very spot where they achieved their greatest wartime success.'** *Right:* **Rocket debris lying in the undergrowth beside the test stand.**

Left: **Test Stand VII after the raid. When the rockets had been put into the vertical position, they were moved on rails either to the Schurre or the launch pad. (DM)** *Above:* **Roland Hautefeuille, a passionate reader of *After the Battle* from France, and Dr Otto Müller, senior scientist of the guidance and control department and one of the leading figures of post-war French rocketry, discussing what remains of the railway network.**

A Peenemünde veteran who worked in the command bunker during the war inspects the rubble which was once his place of work.

An underground tunnel led from the control bunker to the Schurre and the launching pad. After the war the tunnel was uncovered and its roof destroyed.

The effect of Operation 'Hydra' on August 17/18, 1943 was that of a double-edged sword. On the one hand development was put back four to eight weeks, delaying the onset of the V2 campaign from July 1944 to September. However, it also caused the Germans to initially disperse, but subsequently concentrate, all V2 construction at one bomb-proof location at Nordhausen, putting it beyond further attack by Bomber or Eighth Army Air Force Commands. With the deliberate targetting of the Karlshagen estate, and the incorrect marking of the development and production works to the north, the vital guidance control building *(above)* was only slightly damaged.

On August 21, 1943 Peenemünde buried its dead. A clearing had been made in the woods between Trassenheide and Karlshagen and long communal graves prepared, although a few of the more prominent dead had individual graves. Of 12,000 people living at Peenemünde, 8,000 of whom were directly concerned with the rocket programme, 732 had been killed. Only 120 were Germans, the rest consisted of PoWs and foreign workers. The top men had been lucky, except for Dr Walter Thiel, who was in charge of the V2 engine development. It was perhaps the greatest failure of the raid that it did not achieve one of its major objectives: to kill as many of the scientific and technical personnel as possible. Since the V2's propulsion system was already in production, Thiel's death did not affect the development of the weapon.

Despite the number of deaths, the only heavy damage was to the housing estate and the Experimental/Development Works. In the former, destruction was nearly total, while in the latter area fifty of the existing eighty buildings were destroyed or severely damaged. The foreign labour camp at Trassenheide had eighteen of its thirty huts destroyed. But the loss of accomodation was rapidly overcome by billeting the bombed out people all over the surrounding area. The catalogue of destruction does not contain a single item of scientific importance. The wind tunnel was untouched and damage to the vital telemetry and guidance control building was light. The liquid oxygen plant was also unscathed and the airfield and facilities at Peenemünde West, where the Luftwaffe carried out the V1 test flying programme, was completely unscathed. The immediate effect on rocket testing was also slight, for Test Stand VII had not been irretrievably damaged by the few scattered bombs which had landed in the vicinity.

Although no important parts of the establishment were hit and the V2 programme was not seriously delayed, the message was clear. Peenemünde's days of greatness were over. Any plans of mass production, or even pilot production, at Peenemünde were abandoned as well as V2 test firing. A suitable site for production was soon found in a complex of huge tunnels, previously used for various purposes, under the Kohnstein Mountain at Niedersachswerfen, near to the town of Nordhausen, in central Germany. The underground factory, which became known as Mittelwerke Nordhausen (Central Works Nordhausen), consisted of two Fahrstollen (main parallel tunnels) one and a half kilometres long and some hundred metres apart, joined together at regular intervals by forty-six Hallen (smaller galleries) in the form of a ladder. The mountain rock above ranged from forty metres to sixty metres thick. In some of the galleries second floors were installed. This was a layout which lent itself to a highly efficient production-line system. The place was remote and secure both from air raids and enemy eyes.

The conversion of the tunnels started in September 1943 with the help of nearly 15,000 concentration camp inmates from the newly established Buchenwald sub-camp Dora-Nordhausen, and 2,000 engineers.

The principal installations for test firing were transferred to Heidelager, a former SS training camp near Blizna, a small village in south-east Poland. No time was wasted in creating a new rocket research centre at the new location and during October and November, huts, living quarters, sheds, workshops and launching facilities were erected at Heidelager which eventually became a German community with some 15,000 inhabitants. By the end of 1943, Nordhausen had already overtaken Peenemünde as the main production plant and test firing at Blizna was in full progress. The assembly plants at Austria and Friedrichshafen were also closed and their equipment transferred to the Mittelwerke plant.

Peenemünde had ceased to be important and lived in the shadow until the end of the war. Little new construction work took place and the wrecked areas were deliberately left as they were. Burnt timbers were lying around for years and craters were not filled in where they did not actually block the roads. The effect of complete destruction was maintained to mislead subsequent reconnaissance sorties although almost all the machinery, including the wind tunnel and the liquid oxygen plant, had been removed. Some important experimental work and the building of small numbers of V2s for test firings continued but most of the rocket personnel left in the months following the raid and the housing estate became a ghost town. Nevertheless von Braun and some other members of the key personnel remained behind.

In late 1943 another grand production plan was announced by the Degenkolb Committee: 2,000 rockets per month were to be manufactured, almost double the target for Peenemünde and its satellite factories before the Allied bombing. The figure was to be reached by allocating 300 from each of the original production facilities, Peenemünde, Friedrichshafen and Austria, plus 900 from Mittelwerke, the total being rounded up to 2,000. Yet in May 1944 mass production was still based entirely at Mittelwerke, with Peenemünde only producing test rockets, and the new figure was never achieved, although approximately 6,000 rockets were built at Nordhausen between January 1944 and March 1945. In January and February 1944 a total of 140 rockets were produced at

Only concrete foundations remain from the demolitions carried out by the Soviets in response to the provisions of the Potsdam Agreement of August 1945 to carry out 'the complete disarmament and demilitarisation' of Germany.

Heavy damage was caused at the Trassenheide forced-labour camp some three kilometres south of Karlshagen. The camp had eighteen of its thirty huts destroyed, many of the foreign workers being killed. Nothing remains of the camp today and the whole site is now covered by trees and bushes. (DM)

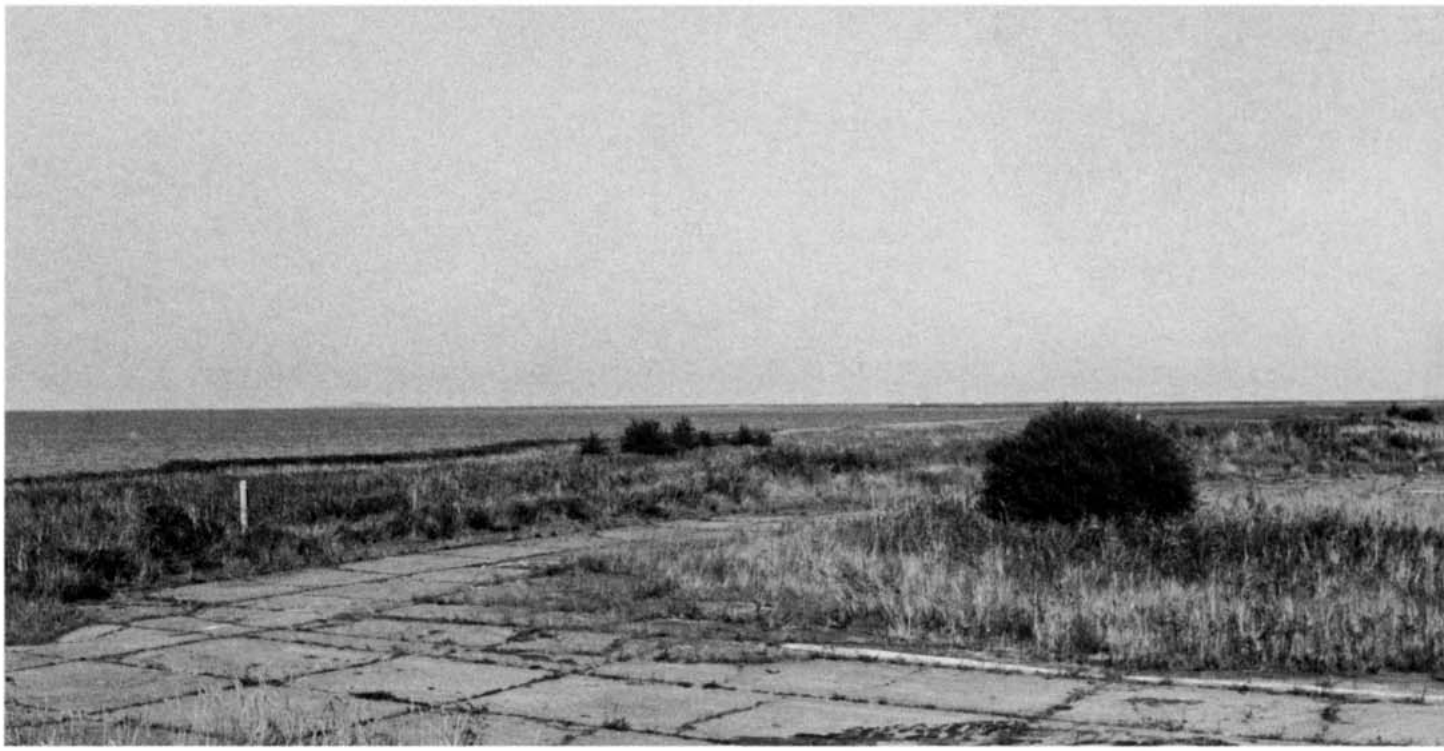
Mittelwerke, followed by 170 in March and 300 in April. Production did improve as the flow of modifications decreased and the workers became more familiar with the procedures, 600 rockets a month being turned out from August 1944. So the rockets designed at Peenemünde were eventually built by a labour force mainly of foreign workers and concentration camp inhabitants, deep underneath the Harz mountains. At the same time, the German military situation deteriorated, especially in face of the Russian advances, and launches were transferred from Blizna to the new launching site 'Heidekraut' at Tucheler Heide, only a few miles from Peenemünde.

A programme of this magnitude inevitably had political aspects. When it became obvious that the V2 was going to be a spectacular weapon, the SS began to try to take over the rocket programme. A power struggle was now taking place for control of the complete project, with SS-Oberführer Dr Kammler, Himmler's representative and head of the SS building construction department, slowly gaining control. Generalmajor Dornberger managed to keep the Nazi Party and the SS out of the rocket project for some time, but the SS did not give up. In February 1944, von Braun was called to Gestapo headquarters in East Prussia, where Himmler tried in vain to persuade him to leave the Army and to work for him. Three weeks later, von Braun was arrested by the Gestapo on the grounds that 'his object all along had been space exploration and not weapon development' (this was, in fact, a rather common attitude at Peenemünde). Also arrested were some of his colleagues, one of whom was his brother, Magnus von Braun, a recent arrival at Peenemünde. It was only the rocket programme's continuing need of them that enabled Dornberger to secure their release after several days. The power struggle went on and eventually the SS was in complete control of the whole rocket project, including the V1 flying bomb, with Kammler becoming one of the fastest ascending stars in the SS power constellation.

The Volksarmee (East German Army) used the Trassenheide forest as a training ground. Several bunkers which stood in their thousands along the inner German boundary until 1990, are grim reminders of the decades of Communist rule over the area.

The camp was situated in the woods east of the road and railway line between Trassenheide and Karlshagen. The road which once led to the compound is impassable for cars today.

The platform of the railway station for 'Trassenheide Lager' (Trassenheide Camp Station) is all that can be found of the camp installations today.



Although the V2 was the most spectacular rocket developed at Peenemünde, it was not the only secret weapon to be seen there. On the other side of the peninsula, at the Luftwaffe airfield at Peenemünde West, Luftwaffe scientists were hard at work on their own projects. The most important of these, the Fi 103 ('Fi' stood for Fieseler, the aircraft company concerned) which later became known as V1. This pilotless flying bomb was simply aimed at the target by a pre-set guidance system, launched from a ramp and flew on until the measured amount of fuel was expended, whereupon it dived to the ground and exploded.

A winged subsonic missile, developed and controlled by the technical department of the air force, the V1 used a pulse-jet engine that operated on petrol and developed 550 kilogrammes of thrust. The basic concept of the engine was a joint venture by the research departments of both the air force and army. The vehicle itself was designed by Fieseler Flugzeugbau, which was already famous for their slow-flying Fieseler Storch army communications aircraft. The missile weighted 2,200 kilogrammes, including its 900-kilogramme payload of Amatol, a mixture of trinitrotoluene and ammonium nitrate. It was 8.23 metres long and 0.84 metres in diameter.

The history of the V1 goes back to the early 1930s when the German air ministry revived its interest in remote piloted aeroplanes at a relatively cheap cost. The work progressed to the position where a working example had been developed by November 1939. The V1 was the Luftwaffe's main hope of securing a major place in the secret weapons programme and the direct competitor of the Army's V2 rocket. Three launching ramps were built adjacent to the airfield at Peenemünde West, pointing out over the Baltic and experiments continued during 1941 to develop a reliable and safe launcher. The first test firing took place in December 1941. The maiden flight one year later was a complete success, the V1 flying on for more than 200 kilometres along the Baltic coast. Ramp launches continued during the spring of 1943, the majority reaching ranges of 250 to 320 kilometres.

The test vehicles were all produced by Fieseler and transported by air to Peene-

Thanks to arrangements made by a former lieutenant colonel of the East German Air Force, a small party of Peenemünde veterans, who used to work at the Luftwaffe establishment Peenemünde West, were given the chance to visit the V1 catapaults at the northern edge of the peninsula. Naturally Jan went along with them: 'The area is still inside the military security zone, but once we were there the old installations could easily be traced. The look-out tower was used by high-ranking officers of the East German Air Force and VIP visitors to observe MiGs firing against sea targets.'

Above: **Before the V1s were launched they were prepared here at the adjustment installation.** *Below:* **The command bunker which controlled engine ignition.**

münde West, where a mixed team of civilian and Luftwaffe technicians carried out the test and launch experiments. It must be stressed that the V1 was not conceived and developed at Peenemünde; the Peenemünde West installations were merely the location of its test flying programme. The V1 flying bomb was everything that the V2 rocket was not: cheap, easy to perfect, simple and quick to produce, and likely to be ready for action soon. Its main disadvantage was that it could fly only on a constant course and altitude and only at a low speed making it vulnerable to enemy defences.

In May 1943 there was a competitive demonstration between the V1 and the V2 and, although the flight of the rocket was a complete success, those of the two V1s were both a failure. After the Kommission für Fernschiessen (Commission for Long-Range Weapons) had made an exhaustive study of the two missiles, Hitler decided to accelerate the development of both together as complementary means of delivering high-explosive warheads on the enemy without the risk of human aircrews. So plans were put in hand for the production of 2,000 V1s per month by the end of 1943.

Another task for the Luftwaffe personnel at Peenemünde West was the test flying of the German jet aircraft and the sounds of the Messerschmitt Me 163, Arado Ar 234 and the Heinkel He 162 filled the air at the northern tip of the peninsula for several years.

By June 1944, enough V1s had been produced to start the attack on southern England. More than 9,000 'doodlebugs', as the British called them, were launched day and night from ramps against London alone, and thousands of others were despatched against other targets in England and on the Continent. While the V1 did provide a severe nervous strain for the London citizens, who were always on the alert for the sudden cut-out of the engine, it failed to fulfill its goals. For one thing it was too slow and could be shot down. For another, the flying bomb offensive suffered under a vast number of mechanical failures. About one quarter of the missiles aimed at Britain failed because of their inherent unreliability and about half were destroyed by countermeasures. Only a quarter reached the target, and some of those did not explode. The flying bombs killed over 6,000 people in England, the worst incident being at Wellington Barracks on June 18, 1944 where 121 died. *(See The Blitz Then and Now Volume 3.)* Antwerp, now the main port supplying the Allied armies in Europe, also received nearly 2,500 V1s.

There were three launch ramps, two prefabricated ones and a large permanent structure *(above)* which has been destroyed almost beyond recognition. The tyres are left-overs from the days of the East German Air Force which used to take them out to sea and set fire to them to indicate targets on the gunnery range.

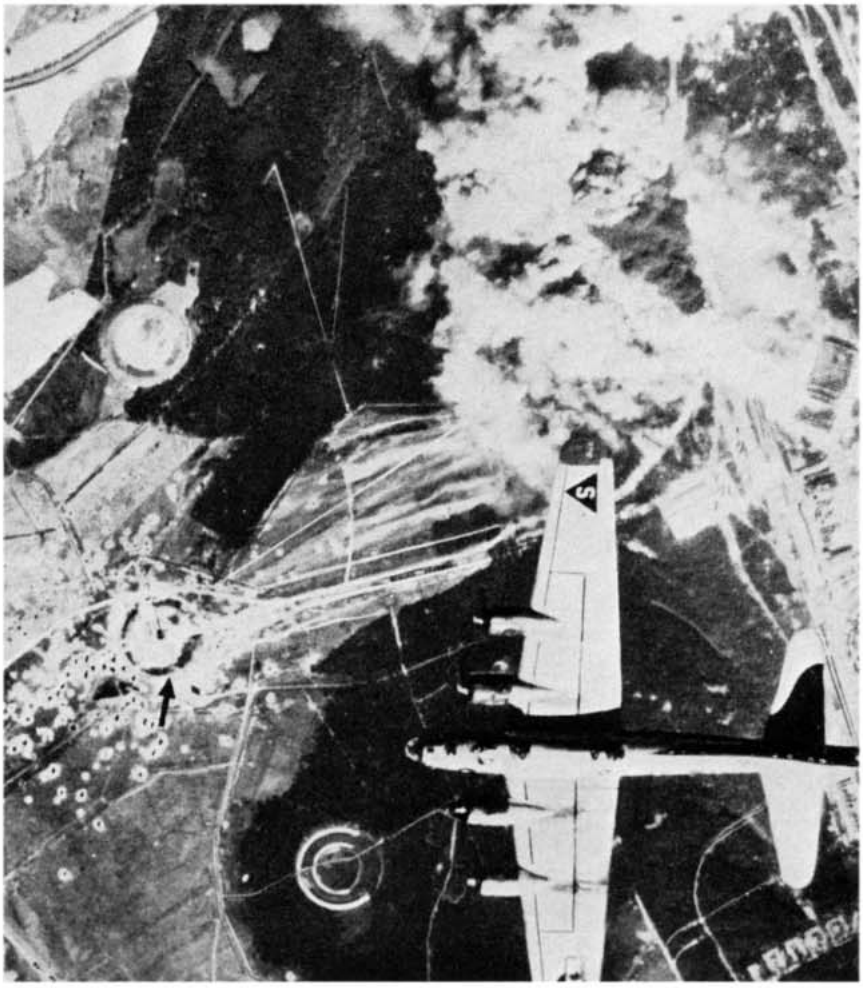
In the early evening of Friday, September 8, 1944, there was no air alert when a violent explosion occurred in Staveley Road in West London. An instant later, a double thunderclap echoed across the city. The people of London had become used to German bombs and V1s, but no one had heard either the sound of German bombers or the noise of a flying bomb engine. The Chiswick explosion and the huge crater in the roadway had been caused by three-quarters of a ton of high explosive contained in the nose of a rocket launched by a German unit from a position in The Hague in Holland. The double thunderclap heard after the explosion was the noise of the rocket breaking the sound barrier. Some hours before, two rockets had been fired at Paris, an event which was a turning point in the history of warfare: the beginning of the German V2 rocket offensive.

Above: **High-ranking military personnel want to know what is going on at Peenemünde. General Warlimont, Generalfeldmarschall Keitel, Generaloberst Fritz Fromm and Generalmajor Dr Dornberger leaving Test Stand VII in 1944. (DM)** *Bottom left:* **Reich Armaments Minister Albert Speer with Grossadmiral Karl Dönitz.** *Bottom right:* **Heinrich Himmler first visited Peenemünde in April 1943 and, following the assassination attempt on Hitler's life in July 1944, took over from Generaloberst Fromm who was arrested. Within 14 days Himmler had sequestrated the entire V2 project, putting his own man, SS-Oberführer Dr Hans Kammler, in direct control.**

There were many other targets hit besides London. The rockets also fell around Ipswich and Norwich, and many Allied-held targets in France, Belgium and Holland. Approximately 2,500 rockets were launched during the seven months of the campaign. More than half, 1,712, fell in and around Antwerp. The London area was hit by 517 and several hundred more landed in the surrounding counties. The worst London incident was when 160 were killed in and around Woolworth's store in Deptford on November 25, 1944, but an even more horrendous death toll came on December 16 in Antwerp when the Rex Cinema in the Avenue De Keyser was struck when full to capacity, killing 567 including 296 Allied Servicemen. Another 29 people were severely injured. (*See After the Battle No. 57*).

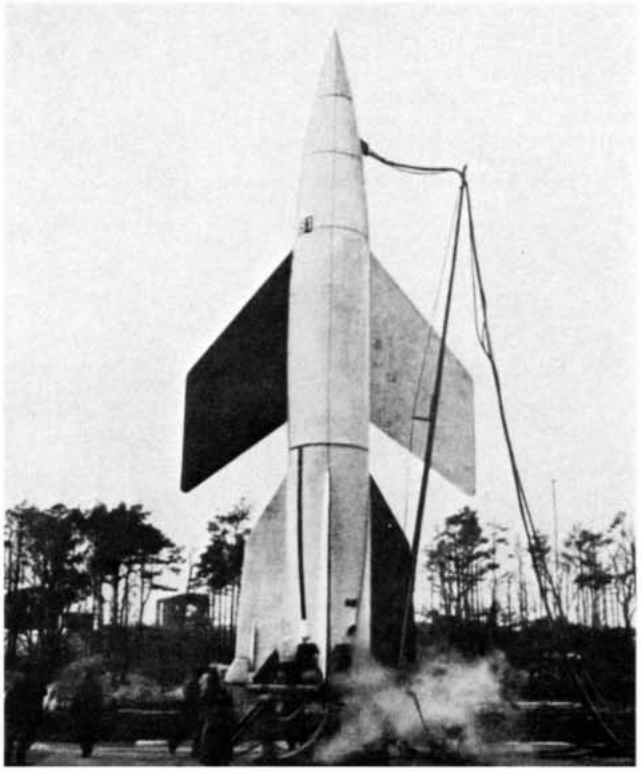
The V2 offensive ended nearly seven months after it had begun when the launching batteries were finally driven from their

After the big RAF raid in August 1943, little was done to repair the damage to the Peenemünde complex. In fact it was decided to leave as many of the ruined buildings much as they were to allay Allied suspicions that work was continuing. However, with the arrival of the first flying bombs in Britain in June 1944, the RAF and the Eighth Air Force redoubled their efforts to strike at any location believed to be connected with robot weapons. The Americans launched their first attack on Peenemünde on July 18; a raid which the official USAAF historian called 'one of the outstanding examples of daylight precision bombing during the war'. Eight separate aiming points were struck by 379 heavy bombers with full fighter escort. Follow-up raids were carried out on August 4 and August 25. In this picture, evidence of the pin-point accuracy achieved in the first attack can be seen from the concentration of craters around Test Stand XI. In all, 811 American aircraft dropped 1,899 tons of bombs in the three raids.



firing sites and withdrawn to Germany when in danger of being outflanked and captured by Allied forces. On April 3, the launching batteries were converted into ordinary infantry units to reinforce the 5. Armeekorps, which Kammler, now holding the rank of SS-Obergruppenführer, had formally entrusted with the defence of the Nordhausen area.

It was now that the Peenemünde rocket people introduced their last project, the A4b, a standard V2 whose external surfaces had been modified to permit the attachment of supersonic wings and enlarged aerodynamic control surfaces. The A4b concept was the result of the loss of the launching sites in France, Belgium and Holland. The rocket team was faced with continuing demands to keep the V2s, by now in full mass production, flying, even though the ranges were much longer than before. In October 1944 it had been decided to modify some V2s to extend their range. Although five A4bs were put under construction, only two were actually launched in January 1945. The first was a failure, but the second went straight up, reached a maximum altitude of 80 kilometres, and attained a speed which made it the first winged guided missile to exceed the speed of sound.

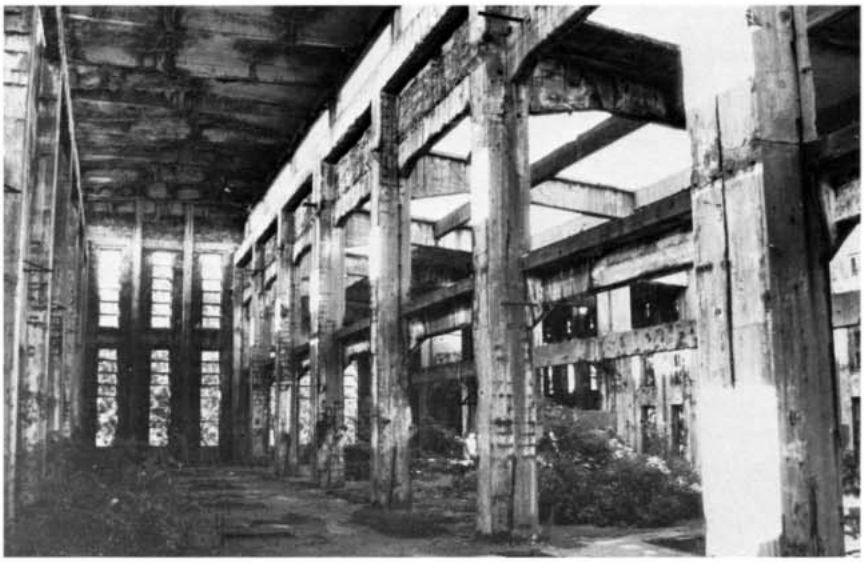


Left: **A Wasserfall anti-aircraft missile is fired from Test Stand IX in the autumn of 1944.** *Right:* **The final Peenemünde project: the A4b winged rocket shortly before launching from Test Stand X in January 1945.**

In early 1945, when it had become obvious that the Third Reich was facing its collapse, 4,325 people were still working at Heeresversuchsanstalt Peenemünde, which had been code-named Heimatartilleriepark 11 (Home Artillery Depot No. 11) since June 1944. Von Braun met secretly with his top staff members to decide whether they should remain at Peenemünde and surrender to the advancing Russian Army or go south and make contact with American forces. The result was a unanimous decision to leave Peenemünde and to move to a region likely to be occupied by the US Army. On February 14, 1945, the last A4/V2 was fired from the launching pads at Peenemünde. Three days later the evacuation began. The Peenemünde team had received a dozen uncoordinated directives and orders from ministries in Berlin, military commanders, the SS and Nazi Party bosses. About 4,000 Peenemünde employees and their families, along with large quantities of documents, drawings and papers, left Peenemünde in ships, railway wagons, trucks and cars. Heading south, avoiding detection by Allied aircraft and bluffing units of the Gestapo and the SS, they finally reached the town of Bleicherode in the Harz mountains, near to Nordhausen, where the Armament Ministry had directed that the rocket research work was to continue.

In the beginning of April, Kammler ordered the transfer of about five hundred Peenemünde rocket experts to Bavaria.

It was probably one of the greatest mistakes of RAF reconnaissanace that they did not realise the importance of the liquid oxygen plant for the rocket programme for the Central Interpretation Unit considered the liquid oxygen plant to be an installation to produce a new kind of explosive. Thus, this vital target was not affected by the bombing and the plant continued to produce the rocket fuel until the war ended. The Russian Army, and later the East German Army, made several futile attempts to destroy the building, but the massive concrete construction resisted all attempts to bring it down. It remains the most impressive exhibit of wartime Peenemünde.



Left: **Built between 1938 and 1942, the steam-turbine power station needed 150,000 tons of mineral coal (lignite) each year to provide the Peenemünde establishment with 30,000 kW of electricity. However, the RAF photo-interpreters thought that the station was not yet in commission but in fact the Germans had fitted smoke filters to the chimneys. The power station was only slightly affected by the RAF bombing and it continued to function right up until 1990.** *Right:* **The old crane, which moved the lignite to the conveyer belts, now stands idle beside the unused dumps of fuel.**

The bunker building, which was originally the control room of the power station as well as serving as an air raid shelter, is now being turned into a museum. It was opened in May 1990 and has already seen over 40,000 visitors.

Thus, as the war approached its end, von Braun, his close associates and a large majority of the Peenemünde team waited in the hamlets and villages around Oberammergau for the arrival of the Americans. From their mountain retreat, Dornberger and von Braun sent off Magnus von Braun to make contact. He surrendered to a unit of 44th Infantry Division on May 2, 1945, at the town of Reutte, stating that he represented a group of some 150 rocket experts who wished to join the Americans to continue their work in rocket development. The captured scientists were moved to German Army barracks in Garmisch Partenkirchen for further interrogation because the Americans quickly realised that they held a pool of enormous scientific ability and experience. During Operation 'Paperclip', most of the scientists, under von Braun's leadership, were offered contracts to go to America and continue with their experiments. There were few refusals and eventually the Americans employed 492 German rocket scientists and technicians. All went to the United States voluntarily and with proper contracts.

For more than twenty years the backbone of American rocket research was provided by the men of the old Peenemünde team with von Braun becoming the guiding spirit of the American rocket research programme. They started in 1946 by firing captured V2s at White Sands Proving Ground, launched a V2 which set an altitude record of 122 kilometres and eventually, 23 years later, they put the first man on the moon. Thus the V2 became the direct ancestor of all major post-war rockets and space carrier vehicles as a result of the capture of German rocket experts and many V2 components by the Allies. In a very real sense, the Peenemünde scientists created modern rocket technology and virtually all post-war rocket developments were based, in varying degrees, on what had been learned at Peenemünde.

When the American troops entered the subterranean Mittelwerke plant, they found, to their surprise, that it was completely intact and that its lines of V1 and V2 assemblies had been left undisturbed. The Americans had come upon one of the greatest technical prizes in history. A 'Special Mission V2' was

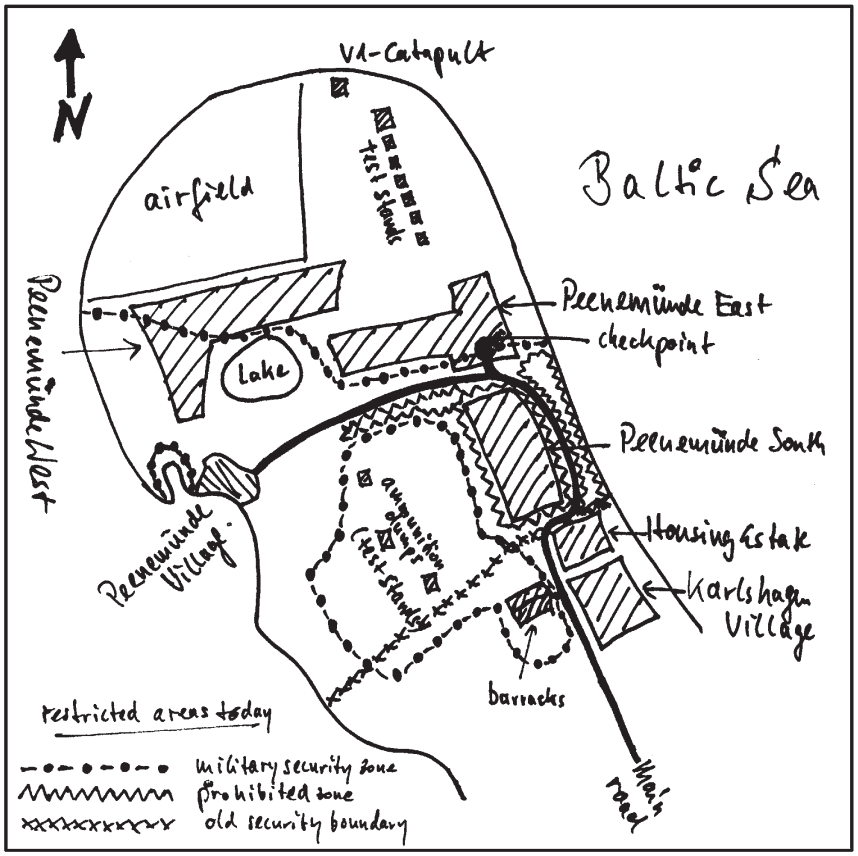
Various pieces of rockets and flying bombs are exhibited outside the museum including a V1. At present there is only a model of a V2 but one hopes that this will soon be replaced with the genuine article.

Relics of a former era lie scattered in the forest but beware . . .

instructed to transport from Nordhausen to Antwerp all the rocket equipment they could lay their hands on. Enough parts were captured to fill 300 large railway wagons, sufficient to construct 75 V2s. The last trainload left Nordhausen on May 31, 1945, the day before the Russians were expected to arrive. As soon as the Nordhausen and the Bleicherode area were vacated by US troops, the Red Army moved in and captured some 3,500 lower rocket personnel. The Russians also started a programme of rocket research based on the V2, their first captured V2 being launched from a range near Volgograd (Stalingrad) in October 1947. The British and French also obtained the services of a few German rocket specialists, but were unable immediately to undertake major missile development programmes. In Project Backfire *(see After the Battle No. 6)* the British secured German aid in firing V2s from Cuxhaven out over the North Sea, but this did not lead to any sustained ballistic missile effort on their part.

After the rocket team had left in February, Peenemünde became lonely and deserted. There was no activity at all, and the only people left were a handful of civilians and a few troops of an SS unit preparing for the last battle against the Russians, expected at any moment from the east. They had a long wait for it was not until May 5, 1945 that Major Anatoli Vavilov, commanding a unit of the Second White Russian Army, actually captured the facility. The Russians approached from the south-west, via Wolgast, but found Peenemünde deserted except for the few defenders. There was little fighting. The Soviets tried to get the few technical men remaining to build them a V2 rocket from spare parts and every piece of salvageable machinery was systematically removed and taken to Russia. Thus ended the life of Peenemünde as a scientific establishment.

For more than 45 years Peenemünde lay behind the Iron Curtain, the whole area



. . . there are still prohibited areas. With the lack of a definitive plan, we reproduce Jan's rough sketch made on site showing the approximate boundaries of the military security zones (marked on signs as 'Militarischer Sicherheitsbereich').

And watch out for mines. This seemingly innocent excavation was caused by the explosion of one in the dunes.

classified as a prohibited military zone until December 1989. Immediately after the war, the Red Army had started to demolish all the installations according to the Potsdam Agreement under the supervision of the Allied Control Council. It took three years to complete the work of destruction which was mainly carried out by German PoWs. The Peenemünde Rocket Centre was literally razed to the ground. During the following years nature struck back and reconquered the areas man had taken from her. Today new forest growth and dense brushwood covers the area and it is now a retreat for rare animals and flowers. Although most of the tracks of the railway network were disassembled and taken to Russia, some of the platforms can still be seen in the woods. Only the lines to Peenemünde village and to Peenemünde West remained intact. The liquid oxygen plant resisted all attempts to be blasted and therefore the massive concrete building is one of the very few installations which can still be seen. The power station is still the all-dominating structure at Peenemünde. It has not been destroyed but was used to provide electricity for the village and the various Warsaw Pact military installations in the Peenemünde area until it was put out of operation in 1990.

In 1956, when the Russian forces left the area, the East German Navy came to Peenemünde and made use of the small harbour until 1990. Since the 1. Flotille terminated its activities on the unification of East and West Germany, the naval installations are now used by the Bundeswehr to store more than 80 ships of the former Volksmarine which are now waiting to be sold to private interests or foreign countries.

Unlike the other seaside towns on the island of Usedom, Karlshagen remained for nearly 55 years in the shadow directly south of the security boundary. Only 72 of the former 2,500 flats of the scientist's living quarters survived. In 1956 the area was cleared of most of the ruins and debris and the rubble recycled. Part of the former housing estate area is now occupied by unsightly blocks of tenements but the rest is so overgrown by trees and bushes that it is impossible to trace the outline of old streets. The former barracks of Versuchskommando Nord, which were originally a holiday camp of the Kraft durch Freude (Strength Through Joy) organisation, were used by Jagdfliegergeschwader 9 and are now the headquarters and accommodation of the Peenemünde garrison commander and his small Bundeswehr unit. All other army buildings in the Karlshagen area are gone. Also nothing remains of the Trassenheide workers' camp and the site is now completely overgrown. Only the platform of the camp railway station survived.

Although the security boundary was abolished in December 1989, there are still prohibited zones which prevent the ordinary visitor from viewing the most important places of the former Peenemünde rocket centre. The test stands, the airfield, the harbour and most of the Peenemünde West installations and the Experimental Works (Peenemünde East) are inside military security zones, to which access is strictly forbidden. It is not advisable to ignore this prohibition, because in all military security zones the guards are ordered to open fire on trespassers. The beach and the dunes north of Karlshagen and the Trial Series Works (Peenemünde South) are also prohibited zones, because of unexploded shells and bombs which are said to be still buried there. However it is most likely that this is a plausible excuse, the real reason being the fear that the Army, as the owner of the area, might be obligated to pay out if someone met with an accident.

Since the 1. Flottille of the Volksmarine (East German Navy) terminated its activities, the naval installations are now used by the Bundeswehr to store more than 80 vessels of the former Volksmarine which are waiting to be sold to private interests or foreign countries. Vessels include landing ships of the Darss class, Type 133 submarine hunters and minesweepers of Project 89.

And like so many armies when they pull out, they abandon all kinds of equipment.

German aircraft returned to the Peenemünde West airfield in 1961, when the Luftstreitkräfte/Luftverteidigung (East German Air Force) established the Jagdfliegergeschwader 9 (9th Fighter Wing) there. Although the sound of MiG aircraft had replaced the roaring of the V1s and the Wehrmacht jet planes, the old wartime flight control building remained in use for several years until a new covered flight control installation was built. Jagdfliegergeschwader 9 carried out its last sortie on September 26, 1990, one week before German unification. The airfield is now used as a parking area for thousands of trucks, lorries and other vehicles of the former East German forces which are waiting to be sold by a private company. Despite the fact that there is no longer any air activity, and that the airfield is now leased by this private company, the area of Peenemünde West is still a military security zone guarded by military personnel of the Bundeswehr Luftwaffe. It is not certain at the time of writing (September 1991) if the airfield, which is a modern and efficient base, will be used as a military airfield in the future.

At the memorial south of Karlshagen, Herr Heinz Grösser leads Die Alten Peenemünder as the surviving employees honour the forced labourers of several nations who died at Peenemünde.

Adjoining the monument is the well-kept mass grave of the Peenemünde air raid victims. The inscription reads: 'Cemetery of the 2,000 victims of the air raids on Peenemünde and

Karlshagen on 17/18 August 1943 and 18 July 1944'. This stone is dedicated to all those killed, including Peenemünde employees, their families and civilians.

On February 8, 1945, a Russian pilot, Starschi Leitenant (Flying Officer) M. D. Demjatejew, who was a prisoner of war in Germany, managed to get into a Heinkel He 111 parked on Peenemünde West airfield to escape to Russia. He was accompanied by nine other prisoners. However, when he arrived in the Soviet Union, the Russians did not believe his story that he was an escaped PoW and instead they accused him of being a German spy. He was sent to a work camp in Siberia and it was not until 1956 that he was rehabilitated and was decorated with the Hero of the Soviet Union for his successful escape. Later, he was a frequent guest of the East German Air Force at Peenemünde during which time he traced various field graves of PoWs in the woods *(left)* **which were unknown to the Germans.** *Right:* **A tribute is placed on the common grave of 91 Poles, 23 Ukranians, 17 Frenchmen, 66 unknown nationalities, and 16 concentration camp inmates. The inscription on the streamer attached to the wreath says: 'We are thinking of you — Yours Peenemünders'.**

South of Karlshagen there is a monument to the concentration camp men of several nations who died at Peenemünde. Alongside is the well-kept common grave of the Peenemünde air raid victims.

The men who built the rockets at Peenemünde are now retired. There is still a sizeable German community at Huntsville, 'the space capital of the world', but the remainder are either scattered across the United States or have returned to Germany. Death has also taken its toll. People who survived the war to settle, finally, in the small town in north Alabama, chose to be buried in Huntsville's Maple Hill Cemetery. Hermann Oberth, highly esteemed, returned to Germany in the early 'sixties where he died in 1989. Wernher von Braun, the man who always had his eye on the moon as the eventual destination for his rockets, died of cancer at Alexandria, Virginia, in June 1977, just a few months after he was awarded the National Medal of Science by President Gerald Ford and only eight years after seeing his greatest ambition fulfilled. His old chief, Walter Dornberger, retired in 1966 and returned to Germany. He died in 1980.

Today there is an active association of former Peenemünde employees, the Interessengemeinschaft ehemaliger Peenemünder, based in Germany, which holds annual reunions, and in September 1991 the survivors grabbed the opportunity afforded by unification to meet for the first time at their former place of activity. More than 200 engineers, technicians, administrative personnel and other Peenemünde employees made the long journey to this extreme northern corner of Germany. Even a considerable number from the German community at Huntsville spared no pains to revisit the cradle of modern rocketry where they achieved their early scientific success.

It was an absorbing experience to attend the reunion which attracted various television teams and press people from Germany, Japan and the USA. The event was carried out with the devoted support of the employees of the newly established Peenemünde Historical Technical Museum for Spacecraft and Rocketry, the majority of whom are former officers of Jagdfliegergeschwader 9. Herr Heinz Grösser, the president of the association, always addresses his comrades as 'the Peenemünde family' and in fact, they are a family in the very positive sense of the word. They are not only colleagues or comrades, but friends for life, irrespective of rank, age or residence.

There is also unanimity about their attitude concerning their wartime work. The Peenemünde veterans talk willingly about their scientific achievements, less happily of the reliance of the rocket programme on suffering slave labour and of the victims and effects of the V2 offensive. Many of them are embarrassed at the part they played in the wartime rocket research. They always stress that their real aim was that of peaceful space research, their work on military rockets being no more than a temporary phase. There is some truth in these statements for their original work was undoubtedly scientific, the wartime episode being forced upon them by events beyond their control.

In October 1992, the survivors of the Peenemünde rocket team will return to commemorate the fiftieth anniversary of their greatest wartime triumph: the first successful launching of a rocket which opened the door to space.

'At this spot rest 213 foreign workers. God says: "I know your names".'

14410713 PRIVATE
E.S. CORTEIL
PARACHUTE REGIMENT
ARMY AIR CORPS
6TH JUNE 1944 AGE 19
HAD YOU KNOWN OUR BOY
YOU WOULD HAVE LOVED HIM TOO.
HIS PARATROOP DOG
KILLED WITH HIM

THE PARATROOPER AND HIS DOG

By Laurie Goldstraw

Although the main events of this story took place in 1944, it began for me in 1988 when I read an inscription on a tombstone in the British Military Cemetery at Ranville in Normandy, about 11 miles east of Caen.

Cemeteries are, by their very nature, rather sad places and most of them are gloomy too. However, anyone who has visited a Commonwealth War Graves Commission cemetery, and they can be found in all corners of the world, would agree that while of course they may be sad places, 'gloomy' is not an adjective that can be applied to them. Often they can be quite 'beautiful', being well laid out and superbly maintained, while at the same time having a quality of informality. Unlike the cemeteries of the 1914-18 war, which in their hundreds mark the course of the four years of fighting and the near extinction of a generation, the British military cemeteries in Normandy number only nineteen, demonstrating both the relative shortness of the campaign there and the smaller numbers of fighting men engaged.

Ranville is a fairly large cemetery and the dead there are predominantly those of the 6th Airborne Division, which landed by parachute and glider some hours before the great seaborne landings of D-Day. The division set up its headquarters near the village of Ranville and here also the various services were established including medical facilities.

The 6th Airborne Division's tasks on D-Day and subsequently, were to secure or destroy the strategically important bridges over the rivers Orne and Dives, to neutralise the powerful coastal battery at Merville *(see After the Battle No. 68)* and to provide and maintain a solid 'shoulder' at the eastern end of the invasion area. Although highly-trained and specialised formations such as paratroops or commandos are normally used for a brief initial period as 'shock' troops, before being withdrawn, such was the importance of the positions held by the 6th Airborne that it was kept holding the line for an unprecedented period for such units — from June 6

TO THE DEAR MEMORY OF ROB
WAR DOG N° 471/322 TWICE V.C.
BRITAINS FIRST PARACHUTE DOG
WHO SERVED 3½ YEARS IN
NORTH AFRICA AND ITALY WITH THE
2ND SPECIAL AIR SERVICE REGT.
DIED 18TH JAN. 1952
AGED 12½ YEARS.
ERECTED BY BASIL AND HEATHER BAYNE
IN MEMORY OF A FAITHFUL FRIEND
AND PLAYMATE.
1939 - 1952

Top: **Rob, Britain's first 'para dog', receives the Dickin Medal — the animal VC — for outstanding courage and devotion to duty. (IWM) The citation for Rob's award is reproduced below.** *Right:* **This picture of his memorial was sent by Jim Baty, a runner with 'A' Company of the 9th Parachute Battalion.**

Rob. War Dog: No. 471/322. Special Air Service. Date of Award 22.1.45
"Took part in landings during North African Campaign with an Infantry unit and later served with a Special Air unit in Italy as patrol and guard on small detachments lying up in enemy territory. His presence with these parties saved many of them from discovery and subsequent capture or destruction. Rob made over 20 parachute descents."

American top dog. USAAF Official photo: 'Salvo, number one applicant for the "Parapup Battalion" at Andrews Field, England, puts on his best "determination expression" for the camerman seconds before taking off for a jump. The fox terrier, owned by 2nd Lieutenant Hugh Fletcher of Cleveland, Ohio, has leapt from 1,500 feet and landed without a scratch.'

until mid-September. As a result, their casualties mounted and, while the first of the dead could be accommodated in the Ranville churchyard, this soon became full and a fresh burial ground was commenced adjacent to it. This became in the course of time the Ranville Military Cemetery, which now contains the graves of 2,238 Allied Servicemen and those of 322 Germans.

The majority of graves in war cemeteries are inevitably those of young men, for throughout the course of history nations have always sent their young men to fight their battles. Ranville, however, seems to have many extremely young men buried there; probably because the airborne units generally, and parachute regiments in particular, appear to attract the young and adventurous spirits. As I walked along the rows of graves this was very noticeable, being emphasised by a headstone which read: '14434704 Private R. E. Johns, Parachute Regiment, aged 16'. Then I came to the grave which prompted this story. The inscription beneath the winged badge of the paratrooper read: '14410713 Private E. S. Corteil, Parachute Regiment, Army Air Corps, 6th June 1944, aged 19' but it was the few words fron the next-of-kin, carved at the foot of the stone which caught my attention: 'Had you known our boy you would have loved him too. "Glen", his paratroop dog, was killed with him.'

Touched and intrigued, I consulted the cemetery register but this merely provided the information that Emile Servais Corteil was the son of Servais and Jessie Corteil of Watford, Hertfordshire. I wanted to know something more. What were 'paratroop dogs'? What were they used for? And what happened to these two on D-Day? I also wondered if, as man and dog had died together, then perhaps, had they been buried together?

Returning home, I began to make enquiries to find the answers to these questions, but at first I could discover very little. None of the authorities I first contacted could help, but a letter of mine published in the Airborne Forces' magazine *Pegasus* brought information rolling in. As a result of this kind and enthusiastic help from ex-paratroopers and even from their relatives, I was able to form a fairly clear picture of the training and employment of 'paradogs' and also of what happened to Emile Corteil and 'Glen' on D-Day.

Parachute troops usually attack well-defended targets by night, for then they are not nearly so vulnerable to enemy fire while on their descent, nor are they so easy to pick off as they land. Operating in the darkness, however, does have its drawbacks, one of which is the difficulty in differentiating between friend and foe. Dogs, however, with their highly-educated sense of smell, have no trouble in making such distinctions as troops on one side have a different scent from those of another side which probably has something to do with equipment, clothing, diet, etc. The dogs were also trained to sniff out explosives and to carry messages.

This was all well and good, but how on earth did they make a dog jump out of an aeroplane several hundred feet up, and in darkness? Training, of course, is the answer. This was long and dedicated until it built up the absolute mutual trust necessary between dog and handler. The 6th Airborne Division used German Shepherd dogs (Alsatians) and usually, but by no means exclusively, male dogs.

One of the many absorbing items of information I obtained was a copy of the War Office manual on the training of war dogs, which has a section on training the parachute dog. Before anything else, dog and handler

War Office manual *Training of War Dogs*: 'Occasions will arise when war dogs will be required to parachute from aircraft. *Voluntary jumping in modified statichutes.* Experience has shown that provided the selected dogs exhibit the necessary qualities and that the training is continuous and progressive no major difficulties should be encountered. Although the characteristics of fearlessness, energy and willingness are cardinal requisites for all war dogs, they must, in dogs selected for parachute dropping, be most pronounced. Size too, is of importance, as the dog must be capable of carrying, without discomfort, the parachute and harness. . . . *Dropping in container.* May be carried out with normal or delayed-action statichutes using a well padded container. The method has the following advantages: (a) Preliminary training of the dog is not essential; (b) The dog is under complete control in the aircraft; (c) Drops can be made from any type of aircraft suitable for supply dropping. *Dropping of untrained dogs without container.* This is the standard procedure in the French Army. The dog is fitted with a parachute harness very similar in design to the normal human pattern. All webbing straps of the harness lead to a ring above the dog's withers. The parachute (small sized man's pattern) is connected to a ring by a specially designed quick release fitting. The parachute is opened by the normal static line. When the dog lands, the quick release fitting comes into play and the parachute and harness immediately drops off the dog. This quick release works equally well when the dog lands in water. When jumping, the dog wears a special combined muzzle and goggles. No attempt is made to teach the dog to jump — if the dog does not jump he is pushed. Some dogs will jump voluntarily the first time after their handlers, but never afterwards.' *Right:* Brian qualified for his paratroop badge by making the necessary number of drops and landed in Normandy with the 13th Parachute Battalion.

'A' Company of the 9th Parachute Battalion early in 1944. Private Emile Corteil sits next to Glen.

went through rigorous obedience training together. Once this was completed satisfactorily, specialised 'paradog' training began. It appears that there were some slight differences in such training between the various parachute battalions, usually as a result of different equipment or aircraft being used, but the general basics remained the same. The dog, always accompanied by its handler, had to become completely familiarised with the inside of an aircraft to the extent that it always 'felt at home' there. In fact, the dogs of the 13th Parachute Battalion were kennelled in an aircraft fuselage. Then, using the standard canine bribe of tit-bits of food, the dog was encouraged to jump from a stationary aircraft — a distance of about six feet. Following this, the dog was familiarised with the noise of the aircraft's engines whilst inside the aeroplane, and then to being inside the aircraft taxi-ing along the ground. During this phase the dog was taught to jump out when the engines throttled back, so that it became accustomed to jumping when the sound of the engines changed. The whole sequence was repeated with the dog wearing its special harness and parachute pack, these harnesses being tailor-made to fit each individual dog.

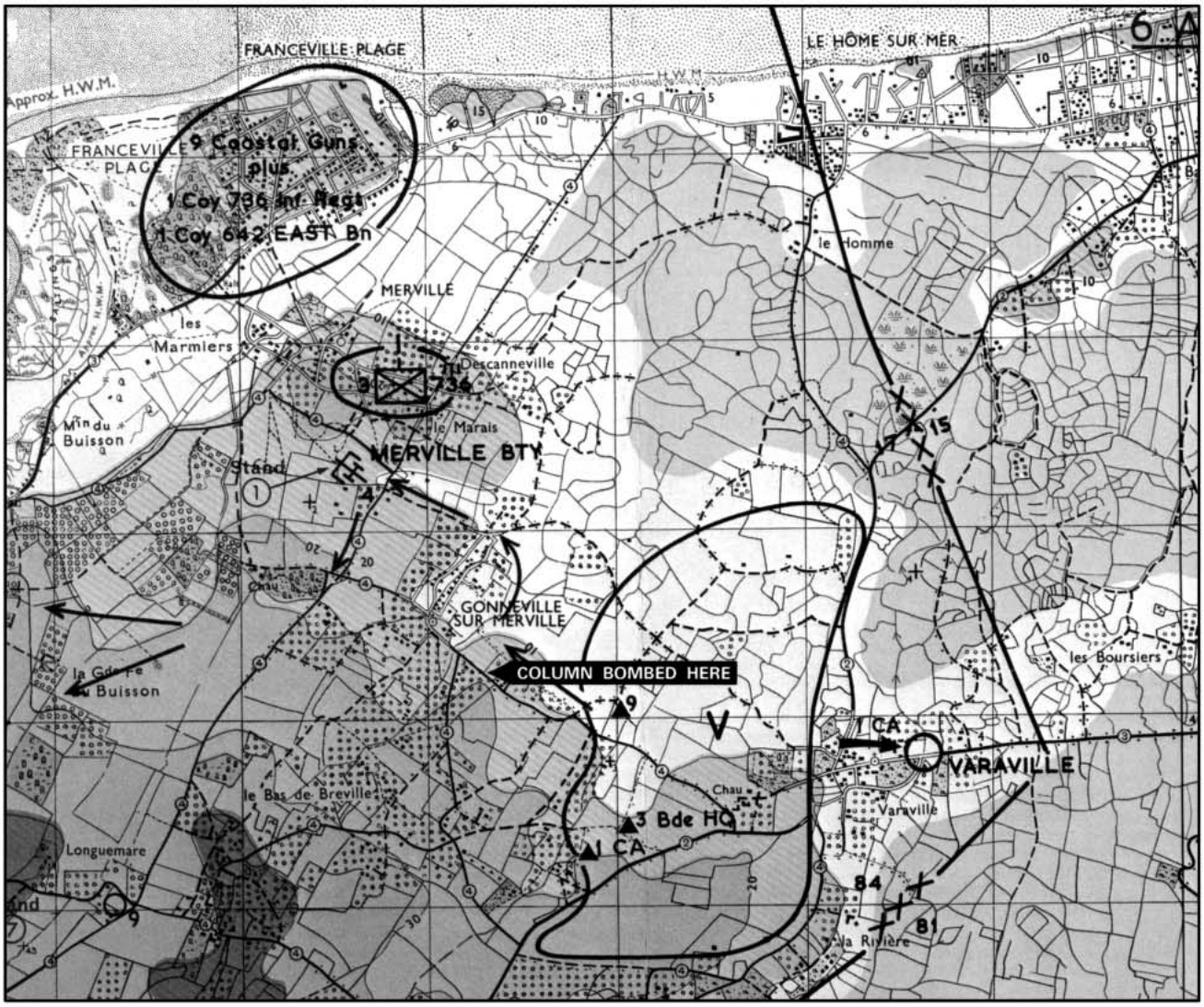
In the 9th Battalion the dogs and handlers then did their first descents together from tethered balloons, about 800 feet up, although I have not been able to establish if this was the practice in other battalions. Finally, after some preliminary 'air experience', jumps were made from aircraft, both by day and by night, and on battalion exercises. Of course, while these final jumps were made as realistic as possible, it was impossible to simulate the conditions which would be encountered during an operational drop and this had an interesting sequel.

Many ex-paratroopers wrote to me, giving a great deal of information, and all were at pains to make two points. Firstly, they were anxious to assure me that there was never any ill-treatment of the dogs whatsoever — and of course there could not be, given the necessary degree of mutual trust which had to exist between dog and handler. The second point all my informants made was that the dogs seemed eager to jump ('more eager than us,' wrote one).

In 1950, Sergeant Ken Bailey of the Royal Army Veterinary Corps wrote an article for his Corps Journal. He had been a dog-handler in the 13th Parachute Battalion which dropped on D-Day, and in his article he gave details of parachute-dog training in his battalion. Most of the parachute troops of the 9th Battalion who dropped into Normandy on D-Day did so from Dakota aircraft, which had a side door through which the jump was made. The drill with dogs in this battalion was that on the command of the handler the dog jumped first, followed immediately by the handler himself. In contrast to this, the 13th Battalion dropped from Albermarle aircraft which were smaller and had an aperture in the floor just forward of the tail, through which the drop was made. Major Allan Parry explained that 'it was a hellishly uncomfortable machine and, of course, was not designed for parachute troops. Its capacity was ten paratroops, sitting on the floor, side by side. The Albermarle's redeeming feature was that it had a very large, elongated aperture. One couldn't miss it!'

Ken Bailey reported that this aeroplane's floor exit proved to be ideal for paradogs but not so good for paratroopers. Because it had

Private 'Jimmy' Gardener, 'A' Company, 9 Para, with his parachute dog during training. This particular dog was unable to complete his training due to his developing sore feet. (Private Gardener is wearing a maroon band on his shoulder straps which distinguished the personnel of 9 Para from those of 8 Para, the other British battalion in the 3rd Parachute Brigade. The third battalion in this brigade was the 1st Canadian Parachute Battalion, which needed no additional identification. 8 Para's identifying band was light blue. These coloured bands were only worn in the UK.)



June 6, 1944. With the Germans having flooded the valley of the River Dives (the area on the right of the map), Drop Zone V was dangerously close to the inundations, especially if a westerly wind was blowing. However, Major Allen Parry writes that the very wide dispersal of the 6th Airborne Division was 'almost entirely due to the failure of the Pathfinders' equipment and to errors in navigation'.

a tricycle undercarriage, the aircraft taxied along with its tail in the air, which made it safer for the dogs when jumping from the taxi-ing aircraft during training. There was also much less air blast from the slipstream when in the air than there was in the Dakota. For the soldiers the drawbacks were that it was very cramped and there was a tendency to induce somersaulting on jumping — neither of which affected the dogs.

The drill in the 13th Battalion was that the handler was the last of the 'stick' to jump, which he did *before* the dog, which followed him immediately. Bailey wrote that the alacrity with which the dog followed the handler out was partially explained by the fact that the handler usually carried with him a substantial piece of meat, of which he made sure the dog was aware!

Several dogs were dropped with the various battalions on D-Day, one being 'Bing' who dropped that morning with the 13th Battalion. On landing, he got hung up in a tree where he was subjected to shell-fire and slightly wounded before being rescued by his handler. He was then patched up, and four days later was with the battalion during the battle which resulted in the capture of the strategically important village of Bretteville. Major 'Dixie' Dean of the battalion told me that Bing remained with them all the time they were in Normandy until the 6th Airborne Division was withdrawn in September. They returned to England where Bing had to go into quarantine but the following February he rejoined his battalion on the Continent, and on March 24, 1945 Bing again jumped into action, this time at the crossing of the Rhine. He remained on active service with the battalion until it reached the Baltic at the end of April, a few days before hostilities in Europe ceased.

Glen's handler, Private Emile Servais Corteil, is believed to have been the son of a French father and an English mother. It is obvious that his names were a bit of a mouthful for his army mates, and he was generally called 'Jack'. He and Glen were assigned to 'A' Company of the 9th Battalion, the company commander being Major (later Lieutenant-Colonel, MC) Allen Parry. There is a famous company photograph taken early in 1944 with Glen looking superbly fit and happy, sitting there proudly with his handler. Major Parry told me the circumstances in which Private Corteil became a dog-handler.

It seems that early in 1944 two privates in 'A' Company went out on Salisbury Plain to do a little poaching, and were caught in the act. These were Private Corteil and his pal Private Bolingbroke. They eventually appeared as defaulters in front of the battalion commander, who at that time was Lieutenant-Colonel Martin Lindsay. After awarding a fairly modest punishment, the CO told them that he had requested the allocation of two war dogs to the battalion, and suggested that these two obviously 'enterprising' young soldiers might like to volunteer as dog-handlers which (of course) they did. Ex-private Jim Baty was once detailed to assist Private Corteil with the training of Glen, and says that before he became Glen's handler, Emile was 'a bit on the wild side but very good-hearted'. However, Jim went on to say the 'when Emile took charge of Glen he became a different chap, and kept the dog in immaculate condition.'

What happened on D-Day? The Dakota, in which most of the 9th Parachute Battalion went to war, was a fine sturdy aircraft, but as the view forward and downwards was obscured for the pilot by the 'solid' nose, identification of the dropping zone by the aircrew was difficult. To add to the difficulty there was, at the time of the drop, a wind of 28-32 mph blowing from the west-north-west, far stronger than desirable. To make matters worse, the Germans had opened the sluice-gates controlling the level of the River Dives, so flooding much of the area into which many of the paratroops were being blown. Due to navigational errors, a large number of men landed far from their designated dropping zone, and a lot of these fell into the flood waters. So bad was the situation that the 9th, which had been given the task of storming the vital Merville coastal gun battery, lost 192 men completely unaccounted for to this day. Much vital equipment was also lost.

Brigadier James Hill: 'I had tea-bags sewn into the top of my battledress trousers, so while I was trying to get out of this lake I was just making cold tea! The way we got out was that we each had six-foot ropes with a wooden handle at each end for tying things up. As we met up with others we linked up with these toggle ropes because if you went into a deep ditch and you weren't tied to someone, you drowned, and there were many drowned that night. After a four-hour struggle we got out, more or less on the edge of our DZ. The Canadians reported that they had captured the DZ and the German command post, so as far as I could tell, all was going well. I realised I had to get back to my brigade headquarters as soon as I could, but I thought the vital thing was to find out what success the 9th Battalion had had with the [Merville] battery. By now I had collected 42 very wet stragglers, and we set off down a track. It was a very mixed party from different battalions, including two naval ratings and an Alsatian messenger dog. It was about twenty to seven in the morning, when all hell broke loose! . . . Then suddenly I heard a noise and I shouted to the chaps to get down. Unfortunately our little lane had high hedges on both sides and no ditches. I threw myself on top of Lieutenant Peters, and realised that we'd been caught in pattern bombing from low-flying aircraft, and it was horrible. When, thank God, they'd gone, I raised myself on my arms and looked around. This little lane was clouded with dust and dirt and stank of cordite and death. Then I saw a leg in the middle of the road. I knew I had been hit, but when I took another look I saw it had a brown boot on, and I knew it wasn't mine. The only chap in the brigade who got away with wearing brown boots was the mortar officer of the 9th Battalion, Lieutenant Peters, and I was lying right on top of him and he was dead. His leg had been severed from his body, yet I was alive. I had been saved because I had a towel and a spare pair of pants in the bottom of my jumping smock, but my water bottle had shattered and I had lost most of my left backside. From that column the only two people who could get on their feet were my brigade defence platoon commander and myself. I then had a problem as a commander. There I was surrounded by 30 or so dying or very badly wounded men. Should I stay with them or what? The answer was, of course, no. We were fighting a battle and we had to get on. We gave jabs to all of them with their own morphia. Then we collected the morphia from the dead and distributed it amongst the living. As we moved off those men, who were all to die, gave us a cheer. That moment will stay with me forever.' *Above:* **The spot where the column was hit has changed as the field on the left was then an orchard. The men were marching along the road (then a track) towards the camera. The DZ lies in the background.**

Jim Baty was 'A' Company runner, and he jumped from the same aircraft as Private Corteil and Glen. He says that, for the first time, Glen was not keen to jump. Over Normandy there was some flak, and through the open door of the Dakota it was both visible and audible. Jim thinks that this, plus the fact that the dog could sense the fear that was justifiably prevalent amongst those on board, most of whom were going into action for the first time. ('I don't think anyone could honestly say they weren't afraid,' wrote Jim candidly.)

Jim landed in deep water and nearly drowned; but he managed to struggle to dry land and, wet, cold and alone, he succeeded in evading the enemy for two days and nights and eventually rejoined what was left of his battalion.

Emile eventually got Glen to jump and followed himself. They landed safely on dry land, although they were several miles from the rendezvous area. There were a number of other parachute troops in the vicinity, including the brigadier of the 3rd Parachute Brigade, of which the 9th Parachute Battalion formed a part. Brigadier Hill had landed in deep water, but as he was a very tall man this only reached as far as his chest and he was able to reach dry land and set about collecting as many of his men as he could. Eventually he had a party about forty strong, including Emile and Glen, and commenced to march towards where his brigade should have been in action some seven or eight miles away. The naval bombardment of the beaches had already begun and, tragically, whilst on this march, the party received the full weight of an Allied air attack.

Major Parry, who led the assault on the Merville battery during which he was wounded, believes that the aircraft involved were RAF Typhoons 'whose allotted task it was, during a certain period and in a prescribed area, to attack any movement, as this could be assumed to be enemy movement'. It was no fault of the pilots that friendly troops were attacked as they were in the wrong place at the crucial time. Nor was it the fault of the paratroopers who, having been dropped in the wrong place, were carrying out one of the soundest precepts for soldiers lost in battle: 'When in doubt, march towards the sound of the guns.' Such disasters are not uncommon in the early stages of hazardous operations, and in this case nearly all the party were killed, including Emile and his faithful dog. Brigadier Hill himself was severely wounded, but kept on with the two or three others who were still on their feet and finally rejoined his brigade.

Airborne soldiers, like a number of elite formations in the British Army, have a tradition of 'looking after their own, alive or dead'. So some time later, when the pace of the fighting had eased, a squad from the battalion led by Major Parry and the chaplain, the Revd John Gwinnett, went out to find, identify and bury their dead. They found the spot where the air attack had taken place, and were able to identify nearly all the bodies and bury them. It is reported that, when found, Emile and Glen were still linked together by the dog lead. The names of the dead and their precise geographical location were then sent to the Graves Registration Unit. This unit subsequently recovered the bodies and transferred them to the military cemetery at Ranville. Here, Emile and Glen were buried together in the grave I saw 44 years later.

In the course of my investigations, I was fortunate to get first-hand accounts from actual participants in the events leading up to and after the parachute drop. Fred Milward wrote that: 'I served in "A" Company as a private and then as a sergeant. We were

Private Corteil with Glen.

training hard for D-Day when we were told that the company was to have custody of one of the battalion's war dogs. He was a beautiful Alsatian and everybody's pet; but as his training began we were told to leave him to Emile as he was Glen's handler, and we must not make too much fuss of the dog. He slept by Emile's bed, and was with him most of the day. I can give some details of his parachute training as I jumped from the same balloon a couple of times with Glen. He was fitted with a parachute which was normally used to drop folding bicycles and which was, of course, much smaller than ours. His harness was made so that he was held with his rear legs lower than the front ones (so that the back legs could take the shock of landing (I well remember when we were in the cage under the balloon on our way up to 800 feet, Emile had to restrain Glen from leaping out before we were there. When he was given the order by Emile he gave a yelp, and jumped straight through the hole in the basket. Of course, his 'chute was opened by static line, and as I floated down I could see him below me. When he landed he had been trained to run in a circle and lie on his parachute to prevent being dragged along by the wind. This he did, and waited till Emile came up and released his harness.'

Sid Capon was a private and later a sergeant in 'C' Company. He was one of the few who stormed into the Merville battery and one of the even smaller number who walked out afterwards.

'Private Corteil and Glen, his dog, used to be together with us on pre-D-Day exercises,' wrote Sid, 'and we all knew the dog, who was in superb condition and more or less one of us. Glen had his own parachute and harness, and attached to the harness was a little red light. He jumped on his own, and seemed more eager to do so than us. Once on the dropping zone, when his 'chute had deflated, Glen would sit on it and wait for his handler to come and release him, and away they would go, as pals and comrades, to carry out any task that may await them. Often on exercise I would try to impersonate the dog's handler, but to no avail. There was no ill-treatment, the dog was in superb condition and inseparable from Emile. Unfortunately Emile and Glen were killed together; but if it had to be death, then no one would have wanted it to have been different than the way it turned out.'

Ranville War Cemetery. Emile's and Glen's grave (No. 13) lies in Plot 1A, Row G — the third row in the photo *right*.

RECOVERY OF JAPANESE TANK, GUAM

By D. Colt Denfeld

The 50th anniversary of Operation 'Forager', the American assault of the Mariana Islands will soon arrive. As this anniversary approaches more and more veterans are returning to the islands for a final visit. They find the islands greatly changed with much alteration in recent years including a tremendous hotel, resort, and golf course construction boom. Many of these tourist facilities, directed at Japanese visitors, occupy World War II landing beaches and battlefields.

The Historic Preservation Offices on Guam, Saipan, and Tinian have closely monitored this construction and before any new building work is carried out archaeological and historical surveys are required which focus on the discovery and protection of World War II features. Where possible the artifacts are preserved or at least carefully recorded and in a number of cases wartime buildings, bunkers, pillboxes, and guns have been restored. An example took place recently on Guam when a Japanese tank was moved 900 feet out of danger of destruction at a golf course-condominium project.

The Type 95 light tank, was buried in clay soil up to its turret and hull machine gun. Its presence had been known for a number of years and it began to receive attention and visits from hikers following a 1975 article in a local newspaper. The account described two buried Japanese tanks at Manenggon Hills, about one mile from the village of Yona, on the eastern side of Guam. The news story connected the two Japanese tanks with three Shermans that had received numerous shell hits about three-quarters of a mile away but US Marine Corps records revealed that the three Shermans had been brought there in April 1946 for target practice as this was a manoeuvre area for two nearby Marine camps (Camp Witek, Ylig Bay and Quezon, Pago Bay).

The Japanese tanks, on the other hand, had only limited damage. One had a shell hole that was visible above ground and the second only two or three hits, but there was no mention in the records of the two tanks and they appeared to be outside the old target range.

A United States survey of Guam's island defences conducted soon after the battle suggested an answer. The Japanese had dug-in some of its Guam tanks, a tactic used at Kiska Island, in the Marshall Islands, and later at Iwo Jima, and the Philippines. Most often the tanks were dug-in to the turret and

On August 7, 1978, the War in the Pacific National Historical Park was authorised by the US Congress to be established on Guam, the largest of the Mariana Islands. Six areas were selected for preservation but work still continues elsewhere to protect significant remains. The most recent project — the recovery of a Japanese light tank — took place in June 1991.

just below the hull machine gun to create a fixed pillbox. The soil surrounding the tank gave it extra protection but it was lost as a mobile fighting machine. On Guam however, there were revetments with access ramps so that the tank could perform as a pillbox but also return to its mobile rôle. The disadvantage of this revetment was the required opening and space between the tank and revetment walls leaving the machine more exposed than when soil was pushed onto the vehicle.

The two Type 95s at Manenggon Hills appeared to have been emplaced in this way but one of the two tanks disappeared some time between the survey in 1979 and 1991. Unfortunately someone had also removed the 37mm gun of the extant tank since the 1979 investigation.

Accounts of the battle for Guam were reviewed to try to find any mention of these two which were sited to fire upon landing troops advancing inland from Pago Bay. However, since the landings had taken place on the west coast, these tank-pillboxes facing the east coast could not have been used in an anti-landing rôle. They were therefore really part of a defence plan which had been abandoned by the Japanese one month before the US landings on July 21, 1944.

Prior to mid-June the Japanese had dispersed their troops over the entire island to defend all potential invasion beaches including those on the east coast and the Japanese defence plan called for the annihilation of the landing forces on the beaches. Should a landing be made then fierce counter-attacks were to prevent the establishment of beachheads and to drive the invading troops into the sea.

The Japanese counter-attacks were poorly organised and the Americans pushed out from the beaches and completed the first phase of the island campaign with the capture of Orote Peninsula on July 29. With the western landing beaches captured, Major General Roy Geiger, USMC, commander of the land forces was ready to launch the next phase.

Aerial intelligence suggested that the Japanese had moved into the northern section of Guam where a road network and the terrain allowed for effective defence. The south had few roads and less desirable defensive terrain. Jungle cover prevented the intelligence officers from stating this with certainty. To move north on the basis of this estimate had a danger. If there were Japanese troops in the south they could attack the American flank or rear. Even worse a trap might be in place to draw the invasion forces north and place them between northern defences and Japanese thrusting north out of hiding in the south and south-east.

To verify that the Japanese had abandoned the south and east below the Pago River a ground reconnaissance was ordered. Patrols of the 77th Reconnaissance Troop, 77th Division, searched the south and east shore but the records of the division provided no clues as to the possible events surrounding the two tanks. Therefore an archaeological investigation of the site was conducted in June 1991 by Micronesian Archaeological Research Services. It was hoped thereby that some answers would be forthcoming in the soil around the tank or within the interior.

The archaeologists trenched around the tank and discovered a soil profile indicating that the tank had been in an open revetment entered by an access ramp. The soil profile matched the open revetment design noted in the wartime after-battle survey. The revetment had been 24 feet wide, 36 feet in length, and three feet deep. To the rear, or west, a three-foot-high revetment wall provided extra coverage. The tank was placed just deep enough so that its 37mm main gun and hull machine gun could fire over the front wall.

After excavation by the Micronesian Archaeological Research Services, the tank was transported some 300 yards to its new location using a tracked backhoe.

The dig around the tank exterior uncovered a 37mm shell casing, US .30 calibre shell casings, and an M1 rifle clip. The tank was found to have shell-hole penetrations in the hull, and at three points the steel plate floor had been ripped open by an explosion. There were also three shell-holes in the bogie wheels and another below ground level confirming the open revetment design. None of the shell penetrations had caused extensive damage indicating that the attack was with infantry weapons not artillery or anti-tank weapons.

The interior excavation uncovered more evidence. Exploded 37mm and 7.7mm shell casings and projectiles were found in the soil. Twelve 37mm shell casings and 16 exploded rounds were excavated. A number more were fused to the floor in a molten collection of 37mm shells and small arms ammunition. About 200 7.7mm bullets and 100 shell casings were found in the interior soil.

The data suggests that the tank was hit by American infantry gun-fire causing stored ammunition to explode. There were no intact 37mm shell casings which hinted that the tank was not manned when attacked in 1944. Had Japanese defenders occupied the tank they would have fired the 37mm gun leaving behind empty shell cases. All the 37mm cases that were found had exploded indicating they were live. The patrol or advancing infantry may have fired on the tank to be certain it was not occupied and their fire exploded abandoned ammunition in the tank.

Once the archaeological investigation was completed the tank was moved 900 feet to a location off the project site. At the new location a revetment conforming to the original World War II design was constructed. The tank now sits in this revetment and a landscaped berm separates it from the condominium project so visitors will not feel the intrusion of modern construction. From the revetment the view is a field of fire across a valley approach to Manenggon Hills. Details of the revetment strategy and fighting in this region will be described on an interpretative sign placed on the reverse (developed) side of the berm. Some restoration of the tank is planned.

The purpose-built revetment duplicated in size the original Japanese one. When this picture was taken the chassis still had to be removed and the area landscaped.

PILGRIMAGE TO KOHIMA

By Lieutenant-Colonel Piers Storie-Pugh

Following the termination of the Falklands War in 1982, an officially organised pilgrimage by next-of-kin to visit the newly-commissioned British Cemetery at Stanley took place early in 1983. The British government financed the costs of this pilgrimage on the *Cunard Countess* for the close relatives of those who died, a precedent which prompted pressure from war widows for such a concession to be extended for them to visit the graves of their loved ones killed in the First and Second World Wars.

Initially the government response was that while it would like to offer such visits to all the next-of-kin of Servicemen buried overseas, it felt that the numbers would be very large and it would be far too difficult and expensive to organise. It was estimated that there were around 11,000 widows surviving of men killed in the 1914-18 war, and some 54,000 from the 1939-45 war and subsequent conflicts.

There the matter rested until June 1984 when the Minister of State for Defence, John Stanley, visited Bayeux War Cemetery in Normandy for the 40th Anniversary of D-Day. There he talked to widows who expressed first-hand the immeasurable comfort that they received from visiting — in some cases for the very first time — the graves in the beautifully maintained cemetery. Seeing that it meant so much to them, on his return he urged the government to reconsider its earlier decision and he received the backing of the Prime Minister, Margaret Thatcher, to whom he had been PPS. It was decided to support the introduction of a 10-year sponsored scheme to enable war widows to visit their husband's grave or memorial overseas at only one-eighth of the normal cost.

The Royal British Legion, founded by Earl Haig in 1921 to remember those killed in the war, to care for war disabled, and to offer comradeship to all ex-Servicemen and their dependants, was approached and asked to administer the scheme. The government was to bear seven-eighths of the cost, although it was stressed that war widows should not be discouraged from applying due to an inability to find the remaining cash.

Above: **On the 75th anniversary of the Gallipoli landings at Cape Helles in 1915, the Prime Minister, Margaret Thatcher, is introduced to the British Legion pilgrimage group led by Piers Storie-Pugh (left).** *Top:* **Mrs Irene Griffiths at the grave of her husband in Algeria during the 1989 Royal British Legion pilgrimage.**

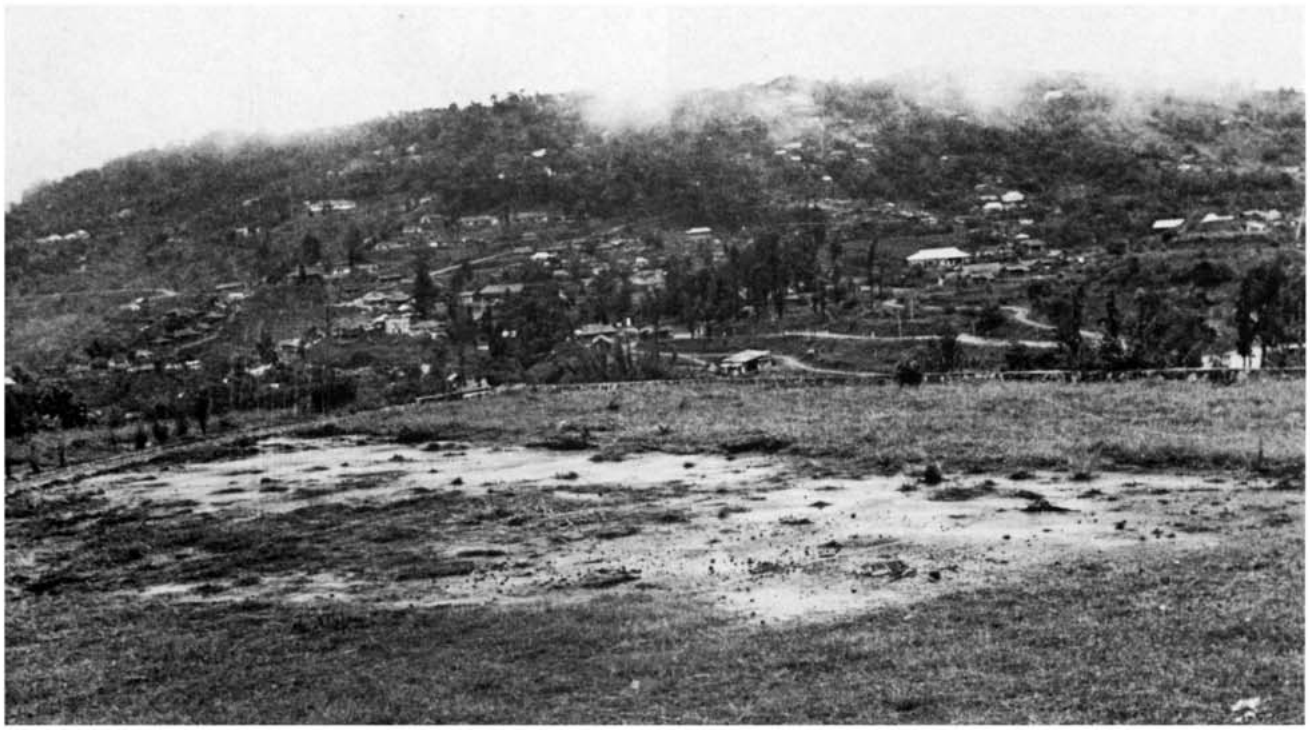
The government-sponsored scheme enables a widow to visit her husband's grave or memorial at one-eighth of the normal cost, her contribution to a pilgrimage to the First War battlefields in France and Flanders, for example, being just £30. *Left:* **Mrs Petrassie Marriott (since deceased) is escorted to the Thiepval Memorial on the Somme in 1990.** *Right:* **Old soldiers are welcome on the pilgrimages; here George Hudson (right) meets a French veteran at Thiepval in 1991.**

The Legion approached Piers Storie-Pugh (a name familiar to readers of issue 63 as he is the son of the Colditz veteran, Peter Storie-Pugh), and asked him to become the Director of the new War Graves Pilgrimage Department, to which he gladly agreed. Piers was already involved with battlefield tours but he particularly welcomed the opportunity of helping people to visit their 'own' special cemeteries and memorials. For the majority, personal circumstances had prevented them from ever making the journey, and it is hardly surprising, therefore, that, 50 or even 70 years on, these visits are emotionally charged events.

Since the first pilgrimage in May 1985 to Italy, which was personally welcomed by John Stanley, another dozen locations were visited during that first year. A team of escorts was established to accompany each pilgrimage with the guarantee that every individual would have the opportunity to visit 'their' particular grave. For visits to some battlefields like the Somme, where dozens of cemeteries record the enormity of the casualties, this does mean stopping at perhaps 10 or more different cemeteries per day.

The Pilgrimage Department covers all campaigns from 1914 to 1967. The first visit to Burma took place in 1987 and other Far East destinations have included Hong Kong, Singapore, Indonesia, Thailand and Japan. Post-World War II British War Cemeteries (which fall outside the charter of the Commonwealth War Graves Commission which is only responsible for those who died before December 31, 1947) include Korea, Egypt and Israel. To date some 5,000 relatives have taken part in these pilgrimages, of whom some 2,000 were widows. The current annual government grant amounts to in excess of £200,000. At the same time, the pilgrimages are open to anybody who is interested, but naturally such travellers are asked to bear the full cost. The Pilgrimage Department also escorts schoolchildren to WWI battlefields and cemeteries to help with their historical studies and to teach them about the 'Poppy'.

Borneo was visited in November 1990. John Scott laid the Legion's wreath at Labuan War Cemetery where his father, Driver James Scott, RASC, lies buried. He lost his life three days before Japan surrendered.



The famous tennis court on which the final battle of Kohima was fought . . .

A milestone came in April 1989 with a visit to Kohima and Imphal, where the Cross of Sacrifice in this most moving cemetery stands on the tennis court of the District Commissioner's residence on which the final battle was fought. Piers Storie-Pugh, who currently commands a Territorial battalion of the Queen's Regiment, describes the visit to this legendary, yet inaccessible battlefield in northern India.

In the wider context, the battles of Imphal and Kohima in the spring of 1944, involved the famous 2nd Division. Often forgotten, however, is the epic struggle that took place on one of the world's most historic battlefields: around the bungalow, gardens and tennis court of the District Commissioner, Sir Charles Pawsey, on Garrison Hill, Kohima. This was the action involving the 4th Battalion, The Queen's Own Royal West Kent Regiment, Territorial Army, and was the true battle of Kohima. For thirteen days and nights the battalion held this dominant feature which stood in the path of the Japanese advance to Imphal and also commanded the road to Dimapur, the nearest railhead.

On April 9, 1989, our group of veterans, war widows and other close relatives, gathered in London for a reception with the Under Secretary of State for Defence, Michael Neubert. He wanted to wish us 'bon voyage' as we set off for Imphal, Gauhati and Kohima, the first group from Great Britain to undertake such an ambitious and historic journey. The pilgrimage, organised by the Royal British Legion's specialist travel department in Maidstone, was the culmination of nearly two years of negotiations with the Indian government, and the special permits to this highly sensitive area of north-east India were issued only days before departure.

The group flew with British Airways to Delhi and were welcomed there by our High Commissioner, Sir David Goodall, a personal friend of the Legion's National President, General Sir Edward Burgess, who was

. . . is now the setting for one of the most moving of all war cemeteries. (IWM)

The whole emphasis of the British Legion pilgrimage programme is centred on the visits to the cemeteries, graves and memorials. The 'battlefield tour' aspect is secondary, when time and circumstances permit. Here Defence Attaché Bill Dawson pauses for thought in the remains of a West Kents trench on top of Garrison Hill.

leading the pilgrimage. Accommodation in Delhi, a sharp contrast to what could be expected later, was in the Oberoi Hotel; a luxury few had experienced before. After a day to recover from jet-lag and to sunbathe, the group split — one party going to visit the Taj Mahal at Agra while the other flew to Imphal on the start of their pilgrimage. They were accompanied by escorts from the Legion, local guides, a doctor and the Assistant Defence Adviser, Delhi.

Imphal, the capital of Manipur, on the borders of Upper Burma, is roughly in the centre of the plain which constitutes a large portion of the state; an ideal location for General Slim to base his enormous garrison of 100,000 men, supplies, aircraft and machinery necessary for the recapture of Burma and two of the all-weather airfields are still to be seen today. Imphal, therefore, became the main objective of the Japanese advance into India in the spring of 1944.

The flight from Delhi to Imphal took about four hours and on arrival at the rather spartan terminal we were welcomed by the Indian Army's local commander, Brigadier Khullar, whose troops of the 9th Sector continue to garrison this area of north-east India, sandwiched between Burma and Bangladesh and so detached from the real continent of India.

Having checked into the Ashok Hotel, far superior to anything we had expected, we had lunch — the first of many hot and delicious curries. Each bedroom had its own bathroom, some with running water all night, and a huge net flung over the four-poster bed, as a protection against the mosquitoes.

After lunch we left the hotel for the war cemetery only about half a mile distant, pursued by curious schoolchildren. There are 1,465 known graves in Imphal War Cemetery, most of them from the British Army, but some from the other Commonwealth countries and over 200 from the Indian Army. The brass tablets, attached to the low relief headstones, are inscribed with the regimental cap badge, the name of the soldier, his age, date of death, the Latin cross, and at the bottom a simple epitaph chosen by his family. For example on the grave of a young soldier of the Northamptonshire Regiment one read:

Ever in our thoughts and so sadly missed, dear Peter
Love from Mum, Dad, brothers and sisters

The majority of widows had not remarried and their sense of love and loyalty to their husbands was evident throughout.

On April 13 the Service of Remembrance was conducted around the Cross of Sacrifice by the Reverend Ian Wetherall, Chaplain to the High Commission, and himself a veteran of the Far East campaign. The 30th Assam Rifles supplied an excellent band and two buglers to play Last Post and Reveille. It was a highly moving and sad occasion. The exhortation was recited by Laurie Neal, who had served in the Arakan with the RAF, and who was at Imphal to see his brother's grave.

After some sightseeing the group returned to Delhi and from there they went to Agra to visit the Taj Mahal and one of the many red forts of India.

Meanwhile we of the road party started the fascinating three-hour journey to Kohima, using a fleet of 'Ambassador' cars (Morris Oxfords built under licence). Indian Army presence was everywhere, some units occupying old British barracks, most wearing battledress, with the '37 pattern belt and carrying .303in Lee Enfields. We crossed the border from Manipur into Nagaland after two hours and received a tumultuous welcome from complete strangers. Thereafter at every mile point we found concrete signs; some indicated the various points reached by the Allied Army in June during the advance to Imphal; others offered caution to drivers; 'Death shows no favouritism'; others warning the locals; 'Keep children and cocks out of the street'.

The views were wonderful, high mountains, deep forests and small turreted villages. As darkness began to fall we saw the lights of Kohima and as we turned the corner at the base of Aradura Spur we could make out GPT Ridge, Congress Hill and Jail Hill where the 1st Battalion The Queen's Royal Regiment had fought in May-June 1944. In the distance lay Naga village and in between, recognisable by the Cross of Sacrifice,

Piers Storie-Pugh with local colour at the Royal Norfolks Memorial at the base of GPT Ridge, Aradura Spur, ten minutes walk from the cemetery.

Mrs Kitty Roberts at the graveside of her husband, Gunner Charles Murray, RA.

Kohima War Cemetery on Garrison Hill, established in the gardens that surrounded the DC's bungalow. We all felt rather in awe of this sacred piece of ground, where the action of brave men has gone down in history as an epic to rival Thermopylae, Lucknow, Stalingrad or Cassino.

Kohima still has that look of a shanty town, the homes have tin roofs, the pets run wild, the roads are dusty and no-one ever seems to be in any great hurry. The school children are all well dressed with red or blue coats depending on the school they attend. The traffic police, dressed in white, madly blow on their whistles from their podiums and everyone obeys them.

This town, the capital of Nagaland and with a population now of 40,000, is perched 5,000 feet above sea level in the middle of the Naga hills, about forty mountainous miles from the Burmese border and with no air or rail link. It is sandwiched directly between Assam in the west, Burma in the east, Arunachal Pradesh in the north and Manipur in the south. Further north lie the Himalayas, further south, the Chin Hills, so it is hard to think of a more inaccessible place.

However, in 1944 it was a most strategic place, being just off the Dimapur to Imphal railway link and in the line of the Japanese advance into India from Burma. A very great deal was at stake, for once the Japanese divisions had crossed the Chindwin they would pour into the Brahmaputra valley, overrun the airfields, many of which were continuing to supply China, and invade eastern India.

The Kohima garrison was commanded by Colonel H. U. Richards, considered too old to command a brigade in Wingate's special force. With great vigour he toured his 'patch' preparing it for defence, with the help of scratch local troops, service units and elements of the Assam Regiment. When the 4th Royal West Kents arrived at the last minute from Imphal it brought his total force to a strength of 2,500. General Mutaguchi, commander of the Japanese 15th Army, despatched the 31st Division to Kohima and elements of it entered the Naga village on April 4 and took GPT Ridge on the 7th. They surrounded 161 Brigade at Jotsoma and imposed a road block at Zubza on the road to Dimapur. On Garrison Hill, the Japanese made numerous attacks which gradually reduced the perimeter. During the struggle they cut the water supply and men crawled out at night to obtain fresh supplies from a spring only 30 yards from the enemy position.

On April 14, 5th Brigade, part of 2nd Division, smashed the Japanese road-block at Zubza, relieved 161 Brigade and finally entered Kohima on April 18. The brave little garrison had held out for thirteen days. On May 13, the hills surrounding Kohima were recaptured and in early June the 2nd Division began the advance to relieve IV Corps at Imphal. They met on June 22 at Milestone 107.

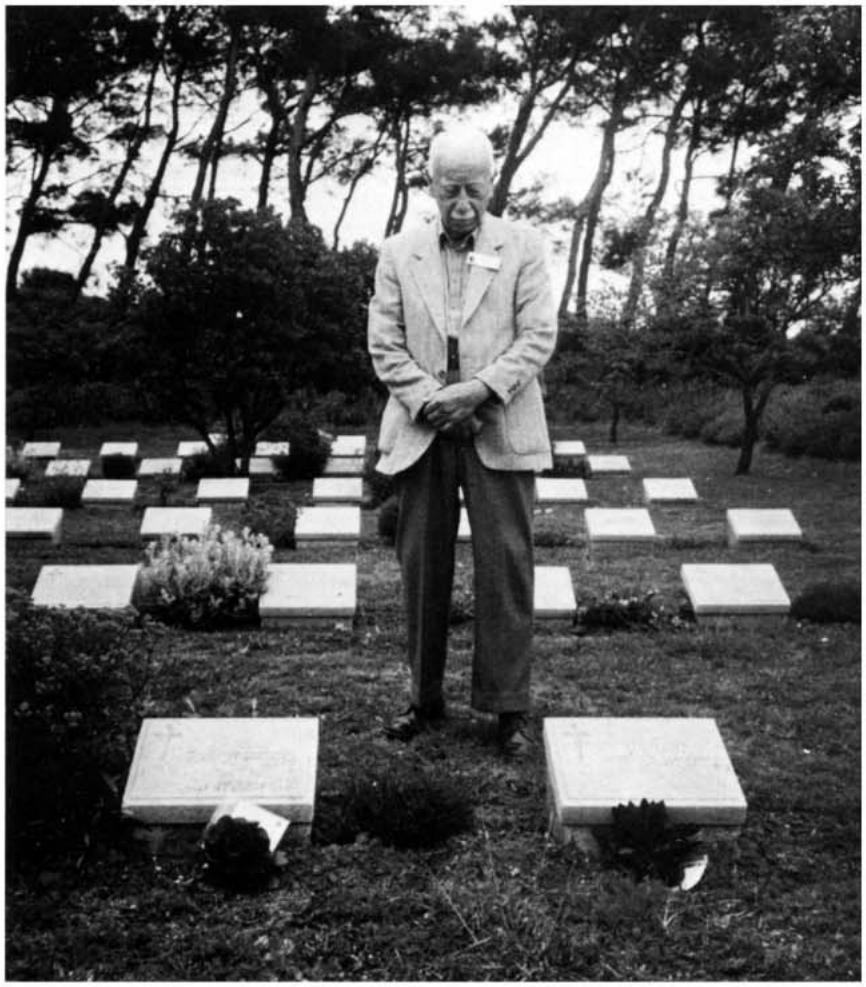
Those of us in the road party had the opportunity of touring the battlefield before the main group arrived; we found an old Lee Grant tank complete with its barrel and tracks; monuments to the Royal Scots at Aradura Spur, the Royal Norfolks on GPT Ridge, the Durham Light Infantry at Kuki Piquet and the 1st Battalion, The Queen's Royal Regiment's memorial inside the cemetery itself.

The party finally arrived late in the afternoon of Friday, April 14, 1989, the 45th anniversary of its relief, and there was good cause for celebration all round because no-one ever expected to make this journey. Again, the hotel was very satisfactory indeed, the food plentiful and pleasant and the locals friendly. The next morning our coach arrived plus our military escort and we departed for Kohima War Cemetery some ten minutes drive away. Amongst the group was Mrs Rose Rees, widow of Corporal Leonard Rees of the Royal West Kent Regiment, and their daughter. Corporal Rees was killed on April 14, 1944.

The visit started with an emotional gathering around the grave of Corporal Harman who was posthumously awarded the Victoria Cross on April 9, 1944 for his selfless action in destroying the machine gun posts that were pinning down his company. I read out the citation which appeared in the London Gazette and his bravery seemed to epitomise the heroism of all those young men involved.

In the cemetery, beautifully maintained by Atuo Angami, there were sad moments, for example experienced by Mrs Enid Embleton, widow of Private Thomas Embleton of the 2nd Durham Light Infantry, as she reflected with her son, Tom, that this was the first time the family had ever been together. Mr James Mackenzie recounted his brother's last few days, killed with the Royal Berkshires, the battalion that relieved the Royal West Kents.

Radio presenter Charlie Chester is very sympathetic to the cause of the ex-Serviceman. He served in the Royal Artillery and ENSA during the last war and joined the 1989 trip to Thailand to make recordings for his BBC show: 'Sunday Soapbox'.



Arthur Scudamore of the 2nd/10th Middlesex had never been back to Hill Ten at Gallipoli where he landed in 1915. His chance came with the Legion pilgrimage in 1991.

During the spectacular service that followed, attended by Brigadier Gupter, GOC 8th Mountain Division, a full military band, 250 local schoolchildren, a Naga choir and military guards, the wreath was laid by General Burgess. The Kohima epitaph was recited by Brigadier Ian Milne, commander of the 6th Field Ambulance during the battle itself.

When you go home tell them of us and say,
For your tomorrow we gave our today.

These moving words are inscribed on the 2nd Division's Memorial — a massive stone which was dragged by Naga tribesmen to its present position at the bottom of the cemetery.

Four buglers standing on top of the summer house, which supports the cross, played the Last Post and Reveille. It echoed all through the hills and over the ridges for which the men had died.

After the service we met a veteran of the Assam Regiment, ex-Naik Dillu Charkasang, who through an interpreter described his actions on Garrison Hill for which he was awarded the Military Medal. It was some reunion for Major John Winstanley, OC 'B' Company, Royal West Kents, because in those dark days of April 1944, he can only have been some fifty yards from Charkasang.

During the tour that followed John Winstanley found two of his old trench positions, overlooking the Dimapur Road.

'It has all come back to me very suddenly,' he said. 'The Japanese were no more than thirty yards from us. It seems unbelievable; what I remember clearly is that to move at daylight could mean certain death — it was terrifying. The enemy had established themselves on all the surrounding hills, the closest being Kuki Piquet and from there they could snipe us at will.'

No man's land became the width of the DC's tennis court, which has been preserved. Jitter raids by night and frenzied attacks by day took their toll of the gallant defenders and often the wounded were forced to lie in the open for days before being recovered. Brigadier Milne had established his field ambulance in the hospital down on 'Ladies Mile', partly sheltered from the incessant Japanese shelling. He said that the prospect of revisiting Jail Hill, Garrison Hill and Aradura Spur across which he and his colleagues had ferried the injured under fire, brought back vivid memories:

'I cannot begin to describe the conditions and the danger. If a Japanese soldier was wounded or killed they would lay him on top of a grenade pin by the side of the road and turn his body into a human booby trap. There is no doubt that if they had taken Dimapur, only 27 miles away, then Imphal would have fallen and they would have got a perfect base from which to start the invasion of the country.'

Brigadier Milne met one of his wartime Naga orderlies during a chance revisit to the old hospital.

After a good night's rest following a show of local folk dancing, we set off for Dimapur, through Zubza, and caught our plane to Gauhati.

Like the other cemeteries we found this one maintained to the very highest order by Donald Pall and his team. Again the Indian Army laid on a superb service; everywhere we went they could not have been kinder or gone to more trouble to make the widows feel at home, wanted and at peace with their husbands' loss.

Back in Delhi we were given a warm reception by the Defence Adviser and none of us, tired by the experience, could really believe we had made it to Kohima and back.

A historic battlefield it was and still is — and those who rest there are worthy of everlasting remembrance.

A moment of remembrance on the 1990 pilgrimage to Berlin. The Director-General of the Commonwealth War Graves Commission, John Saynor (left), joins ex-Colditz PoW Peter Storie-Pugh beside the grave of Mike Sinclair, shot while trying to escape from the camp in 1944 *(see After the Battle No. 63)*. This was the first occasion on which Piers had been back to the castle with his father.

LIBERATION

By Nikolai Bodrikhin and Trevor Popple

Russia has always had a flourishing film industry, which has been given to producing large-scale dramatic pieces of unbelievable proportions for domestic consumption. And of course, war films — particularly those that embraced any of the huge land battles of Russia's Great Patriotic War against Nazism — have suited the wide-screen format so well.

Along with Poland, Hungary, Czechoslovakia and East Germany, Russia churned out war films in the 'fifties and 'sixties at a rate and quantity that far outweighed the collective efforts of American and West European studios though, for those filmgoers resident in the West, it would have seemed as though they were the ones being swamped by war pictures. However, that lasting impression may well have been reinforced by the subsequent regular repeat showings on television. And whereas some of these films — invariably those from the 1960s — could sometimes be legitimately labelled as being nothing short of trivial, the productions made in the East on the other hand were serious re-evaluations of the war itself and its political implications.

Some pictures, principally from Poland, later came to be recognised in the West as important statements about the war in Eastern Europe and its aftermath. The trilogy by Andrzej Wajda (*A Generation, Kanal* and *Ashes & Diamonds*), from the 1950s stands up as a worthy example.

In the West, however, twenty years after the end of the war, the Russian war film was something of a myth. If these pictures were released in the UK, for example, then they would be booked into 'art' cinemas that specialised in foreign movies. Secondly, film critics were not receptive to war pictures generally (with some making a point of deriding the 'heaviness' of Russian dramatic presentation — war film or not), so their collective opinion probably contributed to the scarcity of these films as well. Neither should the limitation set by cultural differences be discounted, nor the absence of familiar box office names. As a result, these extremely restricted releases were only seen by a handful of foreign film enthusiasts, whilst the war film buffs, for the most part, queued up at their local cinema to see anything that Hollywood or Pinewood had to offer. Consequently the Western concept of the war film's magnitude was set by epics like *Battle of the Bulge, A Bridge Too Far*, or for the aeronauts, *Battle of Britain* and *Tora Tora Tora*.

Top: **Panoramic view of German armour during the Battle of Kursk, the first subject of Yuri Ozerov's monumental film series *Liberation*. In *The Flaming Bulge*, it was standard practice for the replicated 'Tigers' and 'Mk IVs' to lead the attacks, and therefore be prominent in shots, while the more modern Soviet types, engaged to build up the numbers, crowded the mid-ground and background. However, with multiple camera photography and helicopter shots, it was inevitable that the 'extras' would get into frame, and in relative close-up.** *Above:* **JS-3 heavy tanks, supported by an ISU-152 self-propelled gun in the background, press forward in *The Battle for Berlin*. The JS-2 made its first public appearance at the Victory Parade in Berlin in 1945. A revolutionary design, it was to greatly influence Western tank development during the Cold War. Features adapted and incorporated into the German Leopard, the French AMX30 and the British Chieftain were the overall low silhouette, sloped armour and the ballistically superb inverted 'frying pan' turret.**

Another aspect of the Russian myth was the Western misconception that Soviet war pictures must be crammed full of examples of genuine German armour, aeroplanes and vehicles, this false conclusion being based upon the premise that the Russian victory must have secured a wealth of German booty by the war's end. And once or twice British television unknowingly lent fuel to this myth. On one occasion a clip was shown on a programme for reviewing purposes: through the hazy glow of the 405-line monochrome tube, a single Russian soldier was seen to be pursued by what was a apparently a Tiger tank. This chase ceased abruptly when the pursued jumped into a shell hole and fired a bazooka rocket into the thinly-armoured underbelly of the pursuer.

The most recent Russian war film to attain any form of wide distribution in the UK was the Italian/Soviet co-production *Waterloo* (1970) produced by Sergei Bondachuk. It featured Rod Steiger as Napoleon and a host of familiar British faces as Wellington's key officers so it was no wonder that it secured a wider audience for not only did it tell a British story, it also had prestigious billing. All the same, as an American was playing 'Boney', it was an extension of an odd logic that cast a Canadian (Christopher Plummer) as the Iron Duke. But the film was prepared and presented with typical Russian zeal. The Belgian battlefield and its buildings were meticulously recreated: hills were either bulldozed or formed, valleys filled in or fashioned, whilst all the indigenous flora were faithfully planted. Piping was also laid so that areas could be flooded or at least water-logged on cue and a monorail erected so that the mobile overhead cameras could photograph the thousands of extras below who were re-enacting the stubborn defence of the British squares and the equally determined probes of the French cavalry. On the whole, reception to the film was cool: the critics panned it for being too slow, though some viewers were engrossed by the battle scenes. Those who did welcome the picture were the military buffs who not only enjoyed the battle, but did so secure in the knowledge that all the participants were dressed and armed appropriately, due to Russian thoroughness of research.

Two scenes from *The Battle for Moscow*. A T-44 'Panzer Mk IV' takes a hit on its engine compartment from a Molotov cocktail as it overruns Red Army infantry positions near the village of Dubosekov, fifteen kilometres from Moscow, though in this instance the explosion was triggered electrically by cable, seen running from the back of the tank at an angle and into the trench.

Whilst the most famous of the Napoleonic battlefields had been recreated in 1969, another — that of Borodino — had been replicated and was being shown in a new Russian film — a serialised feature called *Liberation*.

Within this generic title the Russians, under the leadership of producer/director Yuri Ozerov, had embarked upon a series of feature films — which would eventually run twenty-four hours overall — that was a highly polished, extravagant retelling of their greatest military achievements from the German invasion in June 1941 through to the storming of the Reichstag in the ruins of Berlin in May 1945.

The first film was premiered in the USSR in 1970 and the most recent in the series, subtitled *Stalingrad*, made with the collusion of Warner Bros., was distributed in 1989. Up to this point Ozerov had been consistently working on the project for virtually twenty-five years, the first scripts being commissioned in 1964, and completed in 1966 by Ozerov, and his co-writers Yuri Bondarev and Oleg Kurganov.

Ozerov himself, a graduate of the Moscow Cinema Institute in 1951, and then a producer with Mosfilm Studios, had only directed four other features prior to embarking upon *Liberation*, and, indeed, he was the only constant member of the creative and

Soviet infantry struggles to repel yet another invader as a T-44 'Panzer Mk IV' burns near a replica of the Borodino battlefield monument. The original was erected to commemorate the Russian dragoons killed on the site opposing Napoleon in 1812.

Ancient and modern. A pair of T-44 'Tigers' aided by T-34s and OT-810s as Hanomags press home their attack in *The Battle for Moscow*. Typically, the turret of the later tanks used in the series jarred with the angular features of the replicas, as did the barrel fume extractors and infra-red searchlights. *The Soldiers of Freedom*, released in 1977, was the first picture in the series that did not have to resort to these modern vehicles to make up its armoured formations.

technical production team and cast throughout. Even Stalin had been played by more than one actor.

Liberation (Soviet title: *Osvobozhdenie*) initially consisted of five pictures: *The Flaming Bulge* (1970), *The Breakthrough* (1970), both of which dealt with the Battle of Kursk; *The Direction of the Main Blow* (1971), *The Battle for Berlin* (1972) and *The Last Storm* (1972), which added up to a cumulative running time of nine hours. An overseas version called *The Great Battle*, running for two hours, and dubbed into English, was compiled from the first two titles, and thus became an account of the Kursk battle only.

After a five-year gap, three more pictures were released, though each one was divided into a four-part mini-series in its own right. These were *The Soldiers of Freedom* (1977), *The Battle for Moscow* (1985) and *Stalingrad* (1989). Though not released under the generic title *Liberation* as such, Ozerov declared that the continuing theme running through each picture — that of Russia's victory over Nazism — had nonetheless made the title applicable to all the pictures.

To produce wide-screen, colour, 70mm films depicting Russia's Great Patriotic War was, to say the least, ambitious. Even Columbia Pictures' publicity hype for the Western release of *The Great Battle* didn't seem overly excessive after seeing the rushes. Illustrated with a painting of a KV-1 rolling over a German trench, their poster read: 'TWO GREAT ARMIES DUEL TO THE DEATH WITH A MILLION GUNS AND TEN THOUSAND TANKS!'

To begin by re-creating the greatest tank battle of all time might well have appeared to some to be little short of crazy. Ozerov, like so many other producers of war films around the world, soon discovered that there were not any German tanks, and precious few vehicles, available to appear in the pictures. He could, of course, have solved the problem by merely declaring one type of Russian tank to be 'German', and another type to be 'Russian', rather in the fashion of the M-24 Chaffee 'Shermans' and M-47 Patton 'King Tigers' in Ken Annakin's *Battle of the Bulge* in 1965. Ozerov, probably oblivious of Annakin's film anyway, opted to have some German tanks replicated upon existing Russian designs. Dressing one tank to play another was nothing new: the Germans had modified some Panthers to represent the American M-10 Tank Destroyer, and had even tried to pass off some StuG III SPs as American armour in the real Battle of the Bulge in 1944.

The 1970 picture *Kelly's Heroes*, made in Yugoslavia, had used three very well-made 'Tigers', beneath which were hiding a trio of T-34s. And for *A Bridge Too Far* (1977), in an attempt to provide some convincing German armour, some Leopards of the Dutch Army had been partially modified to represent their wartime forebear, the Panther.

For use in *Liberation*, according to Mosfilm Studios, about a dozen examples of the 35-ton T-44 were converted to represent the Tiger I. Designed to replace the highly successful and ubiquitous T-34, the tank never overcame its mechanical difficulties and was soon phased out of the front line units by 1947 in favour of the T-54 though some did see action in Berlin in 1945, as newsreel footage in Thames Television's series *World at War* bears witness.

However, as a film star, the T-44, albeit in heavy make-up, certainly found a new career. Bearing more than a passing resemblance to the T-34, with virtually the same suspension and a similar turret to the T-34/85, its square sided hull and five pairs of road wheels easily lent themselves to the lines of a Tiger I equipped with the narrower 20-inch road tracks. In any event, there were no tanks that duplicated, or even approximated, the interleaved road wheel design of the Tiger — or Panther for that matter.

Less successful was the transformation of the T-34 into the Panzer Mk IV. The turret of the T-34 was too tall to make a convincing replica, and its Christie-style road wheel layout bore no resemblance to the design of the German tank. The T-44 was also converted to represent the Mk IV, and certainly in *The Battle for Moscow* it is this version that predominates, with the earlier T-34 version staying in the background.

Further conversions were made by taking SU-100 SPs and altering them until they represented, with varying degrees of success, the Jadgpanther and Tiger 'Elefant' tank destroyers, which were used in *Soldiers of Freedom*.

To equip the Red Army of the Great Patriotic War compromise inevitably was necessary in order to assemble the Soviet armoured formations. At the time of the Kursk action in July 1943, the Red Army units were equipped with T-34/76, T-70, KV-1, KV-2 and KV-9 tanks — the principal self-propelled guns being the SU-76 and SU-122.

The older version of the T-34 was not available for the first two pictures, so the up-gunned T-34/85, originally introduced in December 1943, was brought in to effectively play its own predecessor, as well as

Heavy fighting in the suburbs of the capital as depicted in *The Battle for Moscow*. Knowing that the 'knocked-out' T-34 would only be seen fleetingly, a T-34 recovery tractor was used to represent a tank that had lost it turret and been set on fire. The said turret can be seen lying to the right of the hull. This was ironic as recovery tractors were invariably modified from tanks which had lost their turrets in action, with hull armour too weakened by fire for further combat.

representing all the other obsolete Russian designs, whilst the SU-100, which shared the same chassis as the T-34, masqueraded as the SU-122.

For the films covering the events of 1944/45, the T-34/85 stepped into its own historical time-frame, where it was joined by the JS-2, JS-3 and JSU-152. However, by the time that *The Battle for Moscow* was photographed in the early 'eighties, some fifteen years after the filming of the Kursk battle, the once extinct T-34/76, BT-7 and KV-1 tanks were once again available in small numbers, and used very effectively.

From an aviation standpoint Ozerov drew a virtual blank with regard to Russian and German wartime aircraft. The only appropriate type that he managed to obtain was a Douglas DC-3 Dakota. So, as with the armour, compromise became obligatory, and aeroplanes masqueraded according to needs. The Russian Lavochkin La-5 and La-9, and German Focke-Wulf FW 190 fighters, were 'played' by the Yakovlev Yak-11 or Yak-18 but these improvisations were of no detriment to the series, as most viewers disregard or accept shortcomings caused by limitation. In any event, a lot of the aviation sequences were interwoven with the tank action on the ground, and thus aircraft could not be seen in close detail either because of distance, smoke, or both.

The quest for appropriate automobiles was more fruitful. Other than Willys Jeeps and Kübelwagens, three cars which had belonged to Stalin were found in 1970 and in Berlin a large Horch which had been used by Hitler was recovered. To add to this small, but impressive, collection, the Italian co-producers provided some cars which had belonged to Mussolini.

One studio set and location exterior design which spanned the whole series was the bunker under the Reichs Chancellery in Berlin, which was replicated for a considerable number of Hitler scenes — not least those covering the final days. And the property buyers were charged with the task of providing appropriate — and if possible, authentic — furniture and fittings, based upon details provided by Albert Speer. Berlin, Potsdam and other German cities in the Eastern Zone were scoured but, to everyone's surprise and delight, the greatest finds came from the props store of Mosfilm itself! Twenty original pieces from Hitler's office including a large table, a monogrammed armchair, carpets, lamps and chairs were unearthed which when placed on the set gave it that air of authenticity which drew favourable comments from visitors familiar with the original.

The Battle for Moscow. **A Russian tank crew run for cover from their overturned T-34. A pair of BT-7 tanks are in the background, a type which had not been available, although ideally suited, for some of the earlier pictures. The state-owned film company, Mosfilm Studios, has restored many of the different wartime Soviet tanks, as well as re-creating some of the German ones. And these vehicles are available to be hired out to other production companies in Eastern Europe.**

As with any film that sets out to relate actual events, it was inevitable that the prospect of actors playing well-known figures would have to be considered. At the highest level would be Stalin himself (the first time he had been portrayed on film since his death in 1953), followed by Hitler, Churchill and Roosevelt. On another level was Marshal Georgi Zhukov, the victor of Moscow, Stalingrad, Kursk and Berlin, as well as General Vassily Chuikov — commander of the 62nd Army — who had also gained prominence at Stalingrad. Another familiar Russian figure, Nikita Khrushchev, would also be portrayed, as would the lesser Nazis, Göring, Goebbels and Bormann, as well as the Italian leader Mussolini.

A mutually acceptable characterisation of Stalin was crucial to the series. Ozerov initially approached the famous Georgian actor Sergo Zakariadze to play the part, but then changed his mind because he considered the actor to be too portly. The seventy-year-old Zakariadze wanted the rôle so much that he shed forty pounds within a month but Ozerov was not sufficiently persuaded, and he cast the actor's younger

SU100 self-propelled guns and T-34s overrun German infantry positions in *The Battle for Berlin*, a scene which appeared under the film's opening titles. However, this picture does not in any way do justice to a sequence that contains dozens of tanks which were covered by a helicopter-mounted camera, as well as static and mobile positions on the ground.

The Big Three at Yalta. *Left:* **The scene as it was at the Livadia Palace in February 1945. Standing behind Churchill are Admiral of the Fleet Sir Andrew Cunningham and Marshal of the RAF Sir Charles Portal with Fleet Admiral William Leahy behind Roosevelt.** *Right:* **The re-creation in *The Battle for Berlin* with Yuri Durov as the Prime Minister, Polish actor Stanislav Yaskevich as the President, and Buhuti Zakariadze, the first of the three actors to play Stalin in the series. Originally Orson Welles had been approached to play Churchill but due to other commitments he could not fulfil the engagement. Durov's performance was generally considered to be adequate though thought by some to fall short of capturing the essential personality of the British war leader. In the later film, *The Soldiers of Freedom*, Churchill was played by V. Kazansky.**

brother Buhuti Zakariadze instead. He subsequently played the Russian wartime leader in five of the pictures. Later, Jacob Tripolsky took over the part, and a third actor, A. Gomiashvily, played Stalin in the last of the films.

The original plan in 1968 had been for British actor Paul Schofield, perhaps most well-known in the cinema for his portrayal of Sir Thomas More in *A Man For All Seasons*, to play Roosevelt, and the legendary Orson Welles to play Churchill. In the event this was not to be: Schofield turned the offer down because the Russians could not pay him in hard currency, and Welles did likewise simply because he was not able to find sufficient space in his work schedule to accommodate Ozerov. Consequently these parts went to Polish actor Stanislav Yaskevich, and Russian actor Yuri Durov respectively.

Ozerov wanted German actor Fritz Ditz to play Hitler whom the East German studio DEFA had suggested for the part. Nevertheless it took all of Ozerov's powers of persuasion to get the extremely reluctant actor to agree to the part because of his memories of the war. Though he had evaded the Nazis himself, Ditz had had a number of relatives and friends who had been sent to concentration camps. Obviously Ditz did finally relent, and his resultant portrayal of Hitler was a restrained one and he did not resort to caricature as some of his predecessors had done.

For the Soviet domestic market the films were produced with the participants delivering their dialogue in the language (mainly Russian, German and English) appropriate to the scene or sequence, rather in the fashion of Zanuck's *The Longest Day* in 1962. However, being played by Polish and Russian actors, in the case of Roosevelt and Churchill it became necessary to dub their voices into English. The solution was to audition American and British residents in Moscow and to select the most convincing to perform as required. Churchill's part went to a Mr Tom Botting, originally a resident of Reading, who had been living in the Soviet capital for thirty years, but during the non-Russian dialogue sequences (and there were quite a number), a Russian translation was laid over the top of whatever language was underneath, rather than resorting to subtitles.

Naturally, war films which re-stage actual events predictably attract the interested and inquisitive survivors to the set, particularly those who are characterised in the screenplay by famous screen stars. And in the pursuance of publicity, photographs are taken of these elderly — and sometimes frail — men, who are perhaps slightly embarrassed by all the film's media hype, but who nevertheless happily pose alongside their cinematic incarnations, which purport to mirror them as they were twenty or thirty years earlier. Sir Laurence Olivier being mildly rebuked by a wheelchair-bound Lord Dowding on the set of *Battle of Britain* springs to mind as does the image of a smartly-attired Michael Caine atop a Daimler scout car having his on-screen alter ego fine-tuned by its in-life creator, Lieutenant-Colonel 'Joe' Vandeleur of the Irish Guards in *A Bridge Too Far*. So it was no surprise that Ozerov's series should attract prominent figures, notably Marshals Zhukov and Ivan Konev. Not only did they assist Ozerov with valuable technical advice, but these highly decorated veterans also took active interest in the casting of their respective screen counterparts. Zhukov had successfully chosen Mihail Ulyanov to impersonate him, but Konev's initial choice, though physically resembling the marshal, was dispensed with after one picture and replaced by Vassily Shukshin in the following four films — an actor who was also an accomplished writer and director.

All in all, Zhukov and Konev thoroughly enjoyed their involvement with Ozerov's prestigious film series, and took pains to compliment the producer, as did Marshal Moskalenko and General Shtemenko, who had also acted as technical and historical consultants.

Over the twenty years that the series of films was released in the Soviet Union, critical response inevitably varied considerably and opinion spanned the spectrum from euphoric acclamation to the deeply angry.

Stalingrad, the most recent picture, being finished in May 1989, came under heavy fire from certain outspoken elements of the Soviet Press who tore it to shreds from every point of view, from performance to script accuracy and content.

Fritz Ditz in his even-handed portrayal of a difficult part which many actors have overplayed. In this scene, Hitler inspects the new 56-ton Tiger I prior to the battle of Kursk in 1943. (The 'Tiger' shown here is fitted with a dummy hull machine gun simply because the T-44 did not carry a hull gunner.)

Mihail Ulyanov as Marshal Zhukov and producer Yuri Ozerov discuss the finer points of a scene. Only too conscious of what a huge national hero Zhukov was in the Soviet Union, Ozerov went to great lengths to find the most suitable actor for the part. In the event, it was Zhukov himself who recommended Ulyanov, a veteran actor in Russian cinema and theatre for some thirty years. 'He's the best to play that unpleasant individual,' the Marshal is alleged to have said to Ozerov in a rather self-deprecatory tone.

Stalin (in this instance played by A. Gomiashvily) was dismissed as too 'aristocratic', so too was the portrayal of Kruschev, which was considered not to be impulsive enough. General Chuikov on the other hand was deemed to be too 'Americanised' though this latter barb may have had some validity as the part was played by an American actor, Powers Boothe (who had also appeared with Keith Carradine in the picture *Southern Comfort*, and more recently as the central figure in the TV *mini-series Family of Spies*. Because the picture had been co-financed by Warner Bros., Boothe's presence — or certainly that of some American performer — was probably a condition of contract.

Ozerov was also criticised for the script's historical content by those who felt that other units of the Soviet military were overshadowed by the exploits of the 62nd Army. Of course this is yet another version of that familiar cry of woe heard whenever historical events within living memory are recreated on film. Parallels could be drawn here with the screams of anguish that arose around Sir Richard Attenborough over the scenes which depicted the taking of the bridge at Nijmegen in *A Bridge Too Far*. In this instance, the Americans, under the command of Robert Redford, were seen to attack the said bridge, whilst British veterans attacked the said director for not including sufficient coverage of the British armoured and infantry units fighting their way through the town in support of their allies.

However, critics and veterans only see a film from their particular point of view, and no screenplay, when dealing with such huge, far-reaching events as the major battles of the Second World War, can be expected, if viewed without emotion, to embrace every event, and every unit committed. This may also partially explain why some films in the West purport to depict actual battles whilst fictionalising all the central characters. *Battle of the Bulge* and *The Bridge at Remagen* are examples of this trend, as is *Battle of Britain* which fictionalised the squadrons in RAF Fighter Command to escape the possible wrath of the survivors.

As a result of Columbia Pictures distributing *The Great Battle* compilation (which they had hacked about, seemingly with scant regard for Ozerov's feelings) in Europe and the USA, Ozerov's work also invited Western criticism — in this instance very unfairly. It was dismissed out of hand by British reviewers when it opened at the Astoria in London's Charing Cross Road in September 1971. And whilst nearly all of them took cheap pot-shots at the dubbing, translation and wrecked narrative, one or two did grudgingly concede that the battle scenes were spectacular. One historian referred to it

Events not directly connected with Russia's Great Patriotic War were also re-created for inclusion in the series. *The Breakthrough* included this scene in which SS-Hauptsturmführer Otto Skorzeny (Romanian actor Florin Pjersik) rescued deposed Italian dictator Benito Mussolini (Italian actor Ivo Garrani) from his confinement on the Italian Gran Sasso mountain in September 1943. *(See After the Battle No. 22.)* Skorzeny and the four commandos are wearing camouflage smocks typical of those issued to Luftwaffe parachute troops though he and his men actually wore tropical Luftwaffe tunics for this operation. Also, although Skorzeny's smock bears the Luftwaffe eagle, his commandos are wearing tunics with Army — as opposed to SS — collar patches. And consistent with this anomaly are their Army belt buckles.

Infantry advance accompanied by a T-44 'Tiger' in *The Breakthrough*. Initially, the presence of nine left-handed soldiers collected together, each equipped with the Schmeisser MP40, might lead one to presuppose that the picture had been printed in reverse. However, other details, significantly the motor-cycle combination and the commander's hatch on the tank, confirm that the picture is in fact correct.

T-34s crossing the River Dnieper under fire in *The Breakthrough*. On the far bank are a pair of Katyusha rocket launchers, known more familiarly as 'Stalin Organs', used to re-create a devastating rocket barrage against advancing German armour. Model 2½-ton trucks, which carried the launchers, were lined up side by side, whilst the images of tanks being thrown about by exploding rockets were created using model Panzer Mk IIIs with the short 75mm gun.

as 'a stranded whale of a film', and then took pains to describe the portrayal of Stalin as that of a 'familiar, paternal teddy-bear . . . quietly and confidently (and, also, a little complacently) keeping everything under control with a quiet word here, a pointed finger there . . . '. Reaction in France in 1970 had been much the same, and though the reviewers in *Variety* and *The Hollywood Reporter* in the USA drew much the same conclusion, when the picture was seen in September 1971 and again in October 1974, they did so without sarcasm and vitriol.

However, casting critics aside, one question that ought to be addressed is: will *Liberation* be seen on television in the UK? Well, part of it already has been, hidden away in the mini-series *For Those I Loved* featuring Michael York, which concluded on BBC1 on August 4, 1991. Battle footage from *The Battle for Berlin* and *The Last Storm*, notably a night tank attack, street fighting in Berlin, and the storming of the Reichstag, was used to illustrate York's wartime experiences with the Red Army.

As far as showing Russian films in their original form goes, there are only two channels which are likely to do so — Channel Four and BBC 2 as BBC 1 and ITV are too populist to entertain foreign language pictures, and the surviving satellite channels even more so. BBC 2 did make a start in July with the war film *Trial on the Road*, which had been banned for fifteen years prior to its re-emergence due to glasnost, but currently there are no plans to run any of the pictures from the *Liberation* series, or even the English-dubbed compilation *The Great*

This photo, used under the credits of *The Last Storm*, is exactly the type of picture which wartime propagandists would have mis-captioned as a victorious German advance. However, the reality is that the troops are retiring under fire, and the 'Tiger' is in fact moving in reverse. And to add to their problems, another 'Tiger', out of shot in Fischerstrasse, has been knocked out by advancing T-34s, thereby sealing off that line of retreat.

Battle. And Channel Four, which broadcasts various foreign language film seasons, does not currently hold a licence to broadcast *Liberation* in the UK either, or even *The Great Battle*.

To sum up *Liberation* as a piece of cinema is next to impossible. Despite its little moments of personal drama, the series can only really be described as a vast documentary — though the fact that the films are recreations jars totally with that definition. Even so, Ozerov has basically made a 'documentary' series, in spite of the presence of actors, the big screen, and the colour.

Maybe the best way to appreciate Ozerov's achievement is to look at some of the statistics. *Liberation* has been in production since 1964, and it does depict some of the most important events of the Second World War, though naturally much greater emphasis is placed upon the Eastern Front. From the point of view of scale, only *War and Peace* comes close for comparison, with *Liberation* currently standing as the most expensive Russian production ever. And apart from the USA, which colluded in the making of *Stalingrad*, production companies from East Germany, Vietnam, Poland, Bulgaria, Czechoslovakia, Romania and Italy have all participated at some point in the series.

Photography with five cameras was not uncommon for the battle scenes, not surprising as the number of extras peaked at around six thousand at one point. Added to this the lists of speaking parts could be substantial: in *The Battle for Moscow*, for example, out of the 250 speaking parts, 209 of the actors were made up and dressed to represent actual people.

More importantly, Ozerov was able to gather around him a lot of people who had actively participated in the war, and who were thus able to bring their collective experience to the films. Even so, the final three screenplays had been written by military historians, rather than conventional script-writers although the veterans on the production team — Director of Photography and ex-tankman Igor Slabnevich being a prime example — always presented Ozerov (himself an ex-infantry officer and Kursk veteran) with their observations regarding technical detail.

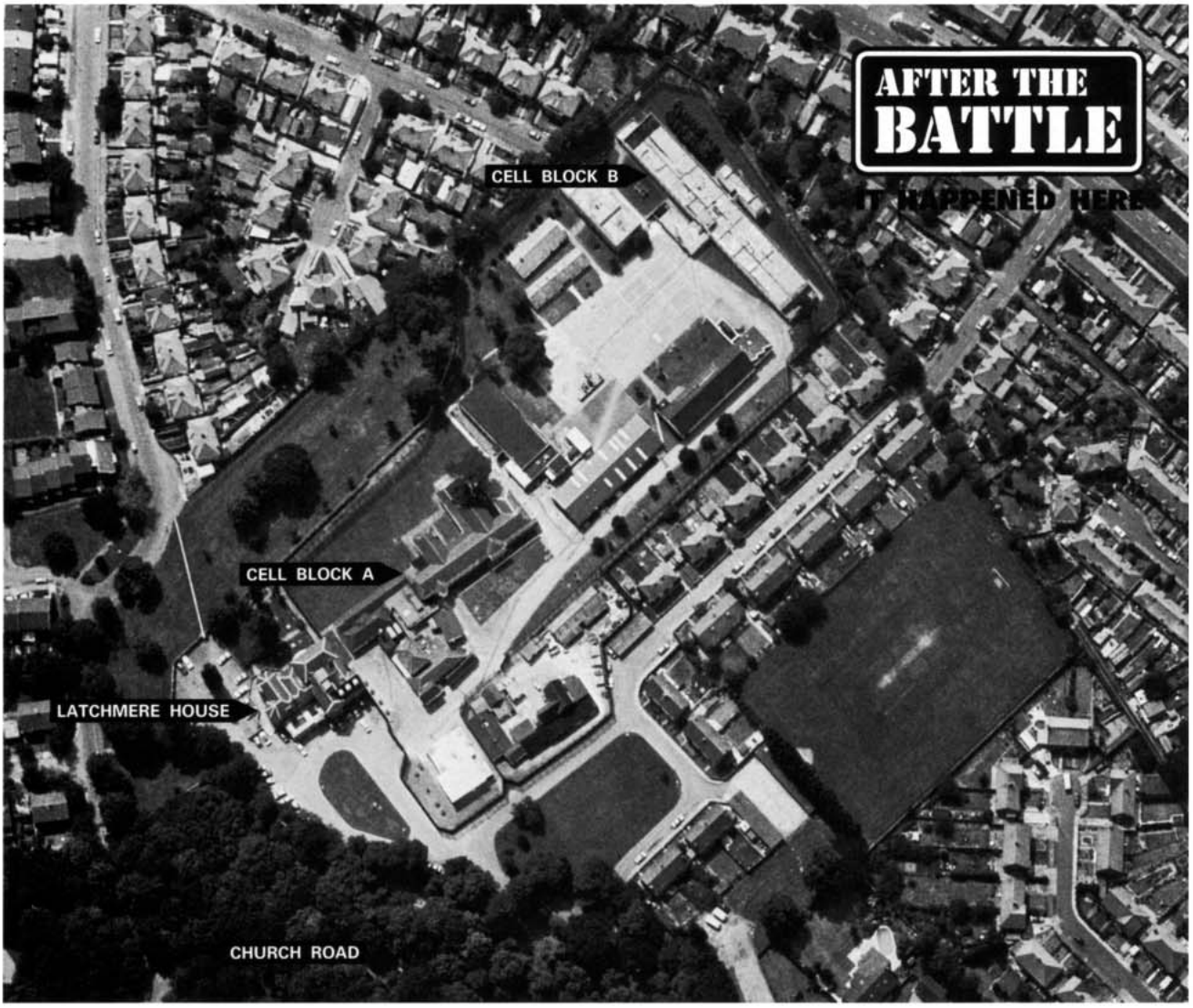
The most recent picture in the series, *Stalingrad*, came out at a time when the Soviet Union was experiencing the greatest period of political change since the revolution in 1917. Consequently Ozerov's images of an earlier, repressive — though certainly glorious — page of Russia's history were not greeted objectively in some quarters. Maybe it was the incarnation of Stalin on the screen — a representative of everything currently being cast off in favour of the new democracy — that made some viewers uncomfortable. Alternatively, perhaps it was Ozerov's 'revisionist' approach to the narrative; it is highly likely that some people were not receptive to a more balanced 'warts and all' interpretation of Russia's Great Patriotic War.

In addition to the political upheaval that *Stalingrad* had to wade through, there was also the sniping over military emphasis to be contended with. Some people were still voicing angry criticisms over aspects of the film which they felt didn't do some units or individuals sufficient justice.

However, perhaps it is better to remember what Ozerov and his colleagues have achieved — and how timely that achievement has been. For just as the Soviet Union struggles to cast off communism and the old order, with all its cinematic distortions and propaganda, *Liberation* can be relied upon as a valuable document, that objectively depicts Russia's earlier struggle against Nazism, and which has been produced by veterans and witnesses of that very struggle itself.

'Monday, April 30, 1945.' In spite of the Russian shell-fire, the bodies of Hitler (right) and Eva Braun are carried roughly from the emergency exit of the Führerbunker for cremation. Goebbels shelters by the door of the exit. The exit block and the unfinished concrete tower were virtually faithful replicas of the originals *(The Last Storm)*.

The camera tracks past victorious Russian soldiers outside the ruins of the Reichstag in one of the most memorable sequences in *The Last Storm*. Producer/director Yuri Ozerov waves his cap in the air to keep the men cheering. Note the loud hailer being carried by the officer with the flag. For this dramatic climax to the film, the Reichstag façade was rebuilt in the Mosfilm studio complex in Moscow.



MI5's SECRET INTERROGATION CENTRE

On the outbreak of war in September 1939, Britain's Security Service — better known as MI5 — moved its headquarters from Horseferry Road in Westminster to the larger, more secure accommodation of Wormwood Scrubs prison in Hammersmith. At the same time, MI5 also had a need for a more secluded holding centre where suspected enemy agents could be kept in isolation. Not only would it have to be secure and away from prying eyes for obvious reasons, it would also have to be divorced from the normal civilian prison system. A search was undertaken for possibilities and a suitable location found at Ham Common, Richmond, where a large Victorian mansion, Latchmere House, lay in its own grounds off wooded Church Road. It was an ideal choice as it was already owned by the War Office, having been used during the First World War as a recuperation centre for 'shell-shocked' officers, a condition more accurately described in later years as battle fatigue. Thus Latchmere House became MI5's secret 'Camp 020'.

Within a few months, a purpose-built cell block with hidden microphones in the ceilings had been built adjacent to the house which had itself been converted into offices with interrogation rooms on the ground floor. Nissen huts were erected for staff accommodation and the whole compound surrounded by a double barbed wire enclosure. The grounds were also screened from outside view by the erection of a wooden perimeter fence.

The first commandant of Camp 020 was Colonel R. W. G. Stephens, an ex-Indian Army officer who wore a monocle which earned him the nickname 'Tin-eye'. He was half German and had a command of several languages, and appears to have been the personification of what one imagines the commandant of a secret interrogation centre to be. Author Nigel West, who has achieved a reputation of being MI5's unofficial historian, sent us a photo of Colonel Stephens which we reproduced in issue 25, page 13. Nigel describes him as being 'disliked by most of the people he came into contact with because of his almost Nazi behaviour and vile temper'. (This personality trait was to get Stephens into hot water when he commanded No. 74 Combined Services Detailed Interrogation Centre at Bad Nenndorf near Hanover after the war, and was court-martialled in 1948 for the ill-treatment of prisoners within his charge.)

Camp 020 opened for business in July 1940 with Colonel Edward Hinchley-Cooke *(see After the Battle No. 11, page 23)* as its senior interrogator. However, as spies were specifically excluded from the provisions of the Geneva Convention, the camp never appeared in the official list of PoW camps in

Top: **Today Camp 020 is surrounded by housing but in 1940, as this contemporary map extract shows, Latchmere House at Ham was an ideal isolated location for MI5's wartime interrogation centre. (Aerofilms)**

The only wartime photograph known is this shot taken from one of the windows of Cell Block B by Dr Harold Dearden, a distinguished psychiatrist with extensive studies of the criminal mind who was appointed Medical Officer at Camp 020 to advise on interrogation techniques.

Latchmere House was retained in the prison service after the war and is currently a resettlement centre for long-term offenders nearing release. The governor kindly allowed us free rein on photography but shooting through a sealed window made for a misty comparison.

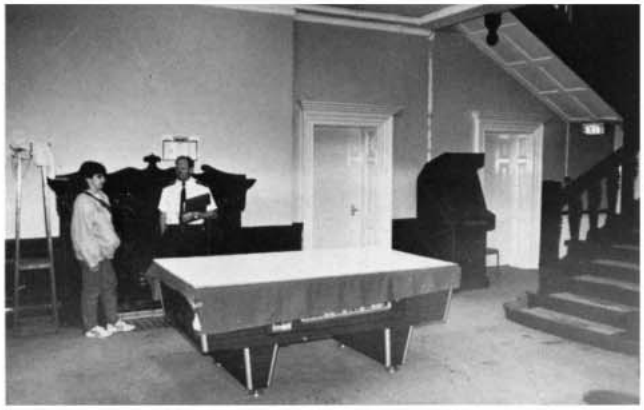
Britain submitted to the International Red Cross for inspection. Due to the secrecy surrounding Camp 020 and its fearsome commandant, it naturally acquired a sinister reputation after the war and rumour abounded concerning secret executions and dummy firing squads designed to break down its inmates.

The whole concept of MI5's wartime dealings with captured enemy agents was to endeavour to turn them into double agents, as we described in issue 11. To this end, Nazi-style torture would have served little purpose in achieving the desired end and, as Nigel explained in his book *MI5*, 'the interrogation methods used at 020 were subtler than the crude use of physical force. A variety of sophisticated techniques were employed but all concentrated on the mental balance of the suspect rather than short-term advantage. To have used obvious torture would have undermined the stability of those experiencing the turning process, and, indeed, affected the confidence of the individual case officers, who were generally not professional intelligence officers and would have resented the use of violence on persons for whom they later had to take a responsibility, quite apart from any humanitarian considerations.'

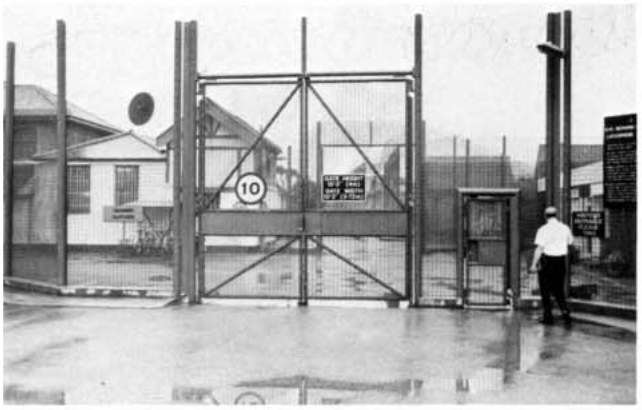
Nevertheless there were two methods of treatment accorded to new arrivals. The 'soft' approach was to reveal to the suspect all that was known about him, to make him aware of the depth of intelligence already available to MI5, and convince the prisoner that as so much was already on file, he might just as well tell them everything and come over to the British side.

Latchmere House itself is now used for administrative purposes and to provide mess and recreation facilities for the prison staff. The opportunity to visit Camp 020 came in September 1991 when Giselle Jakobs visited London. Readers will recall *(see issue 72)* that she wrote to us from Canada requesting more information on her grandfather who was shot by firing squad at the Tower of London in 1941. Fifty years later your Editor took her on a tour to follow in his footsteps.

Then there was the iron fist. A recalcitrant prisoner might be thrown in a cell and left to stew for a few hours. A thorough medical search would then be carried out for poison, before an inedible meal was provided. The prisoner would then be taken to the house to be faced by a 'Board' of several interrogators, led by Colonel Stephens, who would fire questions and accuse the man of being a Nazi spy. The prisoner would be informed that on the basis of his answers, a decision would be made as to whether he would be executed; that there would be no help forthcoming from the civil authorities and no trial. The guards would then treat the man roughly and threaten that he was to be shot.



Principal Officer Vic Collings was our guide. *Left:* This is the entrance hall of the house with its ornate fireplace, well remembered by wartime inmates. All suspected enemy agents were brought here for interrogation by the 'Board'.



Entrance to the cell block area. This gateway is a post-war construction conforming with current Home Office specifications. The number '10' is the fence number for this particular section of the perimeter.

Left: **The original cell block is adjacent to the house. When alterations were carried out recently, the old wiring of the hidden cell microphones was discovered. Today the old cells on the top floor are used for offices** *(right).*

One of Camp 020's first successful 'conversions' was that of Wulf Schmidt, who landed near the village of Willingham, Cambridgeshire, on the night of September 17/18, 1940. He was Danish and had been given a forged British identity card in the name of Harry Williamson although he also carried a Danish passport in his real name. He was due to make contact with Gustav Caroli who had been dropped near Northampton on September 6 *(see The Blitz Then and Now, Volume 1, pages 316-317)*. However, within a few hours of his arrival, 'Harry' was spotted by a member of the Home Guard and taken into custody.

At Camp 020, he was severely beaten, and only rescued at the last moment by 'Tin-eye' Stephens who happened to visit the cell. (The guard concerned — not a member of the regular staff — was immediately transferred elsewhere.) At Harry's interrogation he was made to stand naked before the 'Board', his embarrassment being compounded by the presence of a young female secretary taking shorthand notes.

Within three weeks Harry had been 'turned'. Given the code-name TATE (because of his resemblance to the music-hall comedian Harry Tate), he was installed with

In 1941, another cell block known as 'B' Wing was built in the south-eastern corner of the compound. These cells are still in use although the barred gateway is a new addition to facilitate the control of prisoners.

German agent Wulf Schmidt was sent to spy in Britain in September 1940. Given false papers in the name of Harry Williamson, he dropped by parachute into a field near RAF Oakington.

Right: **Exactly 51 years later, Rupert Allason (right) took Schmidt back to the very spot where he had landed by parachute on the night of September 17/18, 1940. Writing under his pen-name Nigel West, Rupert has told the story in his latest book *Seven Spies Who Changed the World* — this being the first occasion that Schmidt has been willing to be publicly named and to tell his own version of events.**

his MI5 case officer Major Tommy Robertson (the true 'architect' of the double-cross system), and his radio operator, Russell Lee, at Roundbush House, Radlett, and within three weeks had begun transmitting messages back to the Abwehr. During the next five years he became one of Britain's most valuable double agents, sending over 1,000 messages by the war's end. From the German point of view, they also regarded him as the 'pearl' of their agents and they naturalised Harry by radio so that he could be awarded the Iron Cross.

And it was because of the award that Harry finally came out of the cold to tell his own story to Nigel West in 1991 — now published in his new book *Seven Spies who Changed the World*. The medal had been sent to Harry's brother in Hamburg and was recovered at the end of the war. However, with MI5's desire to keep the whole double-cross system secret for ever, Harry was persuaded to hand over the Cross to them for safe-keeping.

After the war Harry was given British citizenship with his privacy still protected by the Security Service. He became a photographer with the *Watford Observer* and also worked on the *Daily Mirror*, yet no one guessed his secret until the German journalist Günter Peis traced him in 1972. That was just after Sir John Masterman published his all-revealing *Double Cross System* but, although it described TATE's activities, it did not reveal his true name. Harry refused the huge financial inducement offered him by a German magazine to tell his story and his identity remained under wraps until Barry Penrose named him in the *Sunday Express* in 1990.

When there were no repercussions from the authorities, his old MI5 case officer Colonel Robertson told him that there was no longer any reason for Harry to remain silent. One of his first actions was to ask MI5 to let him have his Iron Cross back and it was his annoyance at their refusal that led Harry to tell his story for the first time.

As part of the publicity for *Seven Spies*, Nigel West (readers will also know him under his real name of Rupert Allason, MP, *see issue 35, pages 20-21*) arranged to take Harry back to the exact spot where he had landed in 1940, and he kindly invited your Editor to join the party. In the company of his ex-MI5 case officer, Colonel Robertson, and radio operator, Russell Lee, exactly 51 years after his landing, Harry retraced his footsteps. His route lay from a field beside Priest Lane to the village pump where he had bathed his injured hand which he had caught on the door of the aircraft as he jumped. He had lost his watch which had been torn off his wrist and was anxious to purchase a replacement which he managed to do at a small shop in the main street. It was only then that Harry discovered where he had landed when he read the name of the village on the shop receipt.

So Harry's exploits come full circle. He is still hopeful that MI5 will relent and let him have his decoration back, but at least he is satisfied that his own story has at last been told — thanks to that indefatigable MI5 sleuth, Nigel West.

MI5 chief, Major (later Colonel) Tommy Robertson, was the driving force behind the daring plan to convert, or 'turn', every captured German spy into a British double agent. Those that could not be used because of the public nature of their capture (like Giselle's grandfather) were executed, but in every other case MI5 controlled all the German agents in what was known as the 'Double-Cross System'.

Schmidt thereupon became double agent TATE with Colonel Robertson, his personal case officer, controlling his every movement and composing or vetting every message radioed back to Germany. When released after the war, Schmidt was allowed to stay in Britain and was given British nationality in the name originally given him as a cover by the Abwehr: Harry Williamson. Here, Harry (left) meets his wartime MI5 wireless operator, Russell Lee, for the first time since the end of the war.

In 1940, Harry had retained his liberty for only a few hours before he was arrested. In 1991 he retraced his route for us . . .

. . . from the spot where he left his radio set to the water pump *(left)* **. . . to the shop in the main street** *(right)*.